Arizona Department of Health Services

Youth Tobacco Survey
2003 Report

August 2005

Office of Tobacco Education Prevention Program

Evaluation Unit

In process for approval

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This report is available on line at:
http:www.azteppdata.org/evaluation/index.html

We would like to thank the students who participated in the survey, and the teachers and principals who facilitated their participation.

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Definition of Terms

Ever users. ***Ever users*** of cigarettes, smokeless tobacco, cigars or cigarillos, pipe, bidis or kreteks were defined as students who had ever smoked (even one or two puffs), taken one dip of smokeless tobacco, or tried any other tobacco product in their lifetime.

Current users. ***Current users*** of cigarettes, smokeless tobacco, cigars or cigarillos, pipe, bidis or kreteks were defined as students who reported product use on at least 1 of the 30 days prior to the survey.

Frequent users. ***Frequent users*** of cigarettes, smokeless tobacco, cigars or cigarillos, pipe, bidis or kreteks were defined as students who reported product use on at least 20 of the 30 days prior to the survey.

Established smokers. ***Established smokers*** were defined as students who reported smoking *more* than 100 cigarettes in their lifetime and had smoked on *more* than 20 of the 30 days prior to the survey.

Never smokers. ***Never smokers*** were defined as students who reported they have never tried smoking during their lifetime.

Executive Summary, Conclusions and Recommendations

Design and Purpose of the Survey

The 2003 Arizona Youth Tobacco Survey is designed to monitor trends in tobacco use among public school students in grades 6 through 12. The survey also collects data on topics including: tobacco-related knowledge, attitudes and beliefs; access to tobacco products; exposure to environmental tobacco smoke; initiation and cessation; influence of family, friends and the media; and social, school and community interventions. The survey was administered between March and May of 2003 to 6620 middle and high school students in randomly selected public schools (both district and charter) across the state. The survey consisted of 84 questions, including approximately 65 core questions from the Centers for Disease Control's Youth Tobacco Survey. The survey results are presented for middle school students (grades 6-8) and high school students (grades 9-12).

Prevalence of Tobacco Use

- In 2003, approximately 15% of middle school students and 26% of high school students in Arizona were current tobacco users (had used a tobacco product during the 30 days prior to the survey).

- Reported current use of tobacco products by middle school students decreased from 17.1% in 2000 to 14.5% in 2003. Current cigarette used decreased from 11.4% in 2000 to 8.9% in 2003. (Comparable data are not available for high school students).

- Cigarettes were the most common form of tobacco used, with 9% of middle school students and 19% of high school students reporting current use.

- Cigars or cigarillos were smoked by 6% of middle school students and 12% of high school students during the 30 days prior to the survey.

- Current tobacco use increased steadily by grade level, from 8.9% of sixth graders to 31% of 12th graders. Current cigarette use ranged from 4.6% in 6th grade to 19.9% in 12th grade.

- Boys (15.1%) in middle school were slightly more likely than girls (13.8%) to report having used tobacco, but much more likely to do so in high school (30.1% for boys and 22% for girls).

- Current use of cigarettes by boys and girls did not differ in middle school (boys = 9% and girls = 8.7%) but did differ slightly in high school (boys = 20.2% and girls = 17.4%).

- Among ethnic groups, American Indians reported the highest current tobacco use rates in both middle and high school (28% and 52%, respectively). They were followed in middle school by African Americans (19.5%) and Hispanics (17.7%). In high school, they were followed by African Americans (27.2%) and whites (26.9%).

- Prevalence rates for Arizona students in 2003 were slightly lower than national rates.

Starting, Progressing Towards Established Smoking, and Quitting

- Among current smokers, 38% in middle school and 26% in high school reported trying their first cigarette at age 10 or younger.

- Locating students on a "smoking continuum" of never smokers to established smokers showed that:
  - One out of two middle school students had never tried smoking and reported not being interested in trying. This was true for one out of three high school students.
  - The majority of current smokers in middle and high school were "occasional" smokers (6% of all middle school students and 10% of all high school students). They typically smoked on fewer than 6 of the 30 days prior to the survey and reported smoking one to five cigarettes on the days they smoked.
  - 6% of high school students and 1% of middle school students were established smokers, having smoked more than 100 cigarettes in their lifetime and on more than 20 of the 30 days prior to the survey.

- Although approximately 50% of current smokers in middle and high school reported a desire to quit, few reported they would participate in a program to help them quit (about 15%). Many reported thinking they would be able to quit "now" if they wanted to (about 75%). At least one quit attempt was reported by 63% of middle school current smokers and 55% of high school current smokers during the past 12 months.

Knowledge, Attitudes and Beliefs about Tobacco

- The vast majority of students reported that tobacco is addictive and that smoke from other people's cigarettes is harmful (over 90%). Over 85% reported that smoking 1 to 5 cigarettes per day is harmful. Seventy percent of students reported that smoking for a year or two is not safe, even if you quit after that, but the remaining 30% who did not agree with that statement represent those who are already using tobacco or are susceptible to tobacco uptake and possible addiction.

- There was a distinct difference in perception between never smokers and established smokers about young people who smoke looking cool or fitting in and having more friends. The vast majority of students who had not smoked and were not susceptible to smoking did not believe that young people who smoke have more friends or that smoking makes young people look cool or fit in (less than 10%). However, among established smokers, about half agreed that young people who smoke have more friends. About one third of established smokers agreed that smoking makes young people look cool or fit in.

- Many students (38% in middle school and 51% in high school), both smokers and non-smokers, reported that smoking helps people reduce stress. Among current smokers, 75% thought smoking reduced stress. The perception that smoking helps reduce stress was stronger than the perception that smoking makes young people look cool or fit in, or have more friends.

- Approximately 25% of students (smokers and non-smokers) thought smoking helps people keep their weight down. Twice the percentage of established smokers reported that smoking helps keep weight down compared to committed never smokers (approximately 45% compared to 23%).

Influence of Family, Friends and the Media

- More than one out of three students reported living with someone who smokes cigarettes.

- More established smokers reported living with someone who smokes than other smokers and non-smokers. Among established smokers, 62% in middle school and 71% in high school reported living with a smoker.

- Established smokers in middle school (78%) and high school (82%) also had the highest frequency of reports of having one to four closest friends who smoke. In contrast, never smokers who were not susceptible to trying smoking reported much lower rates of having close friends who smoke, around 12% in middle school and 21% in high school.

- Most students reported seeing actors using tobacco on television and in the movies on a regular basis whether they smoked or not. It was much less common for them to see athletes using tobacco. Current smokers and those who were susceptible to smoking showed far more interest in using or wearing an item that had a tobacco company name on it than did committed non-smokers.

- Equal numbers of smokers and non-smokers reported hearing commercials about the dangers of smoking on a daily or almost daily basis.

Access to Tobacco

- Students who want to smoke do not seem to have a hard time getting cigarettes. Current smokers under 18 year old reported getting most of their cigarettes by bumming them, giving someone money to buy them, getting them from someone over 18, or some other unspecified way. Buying them from a store was reported by 8% of current smokers in middle school and 23% of current smokers in high school under the age of 18 year old.

- Among current smokers under 18 year old who bought cigarettes in a store, 61% in middle school and 67% in high school reported they were not refused the sale when they last attempted to buy.

Exposure to Environmental Tobacco Smoke

- More than half of the students reported having been exposed to second-hand smoke in a room or a car at least once during the week prior to the survey.

- Students living with a smoker (77%) reported higher rates of exposure at least once during the past week than students who did not live with a smoker (43%).

- Repeated exposure in a room or car was also much more prevalent for students living with a smoker. Sixty-three percent of students living with a smoker were exposed to smoke in a car on three or more days, compared to 20% who did not live with a smoker. Exposure in a room on three or more days was 58% for students living with a smoker, compared to 17% for those who did not live with a smoker.

Social, School and Community Interventions

- The percentage of students who reported hearing about the dangers of tobacco use from doctors, dentists, or someone working in their offices was very low. Among students who visited a doctor's office during the past year, 25% of middle school students and 18% of high school students reported they heard about the dangers of using tobacco during the visit. This was true for 19% of middle school students and 13% of high school students who visited a dentist's office during the past year.

- Although 72% of high school and 67% of middle school students reported they had participated in a class or course that discussed the dangers of tobacco at sometime during their schooling, only 16% of high school and 28% of middle school students had done so during the current school year.

- Few students reported being involved in a community-based club or group to discourage the use of tobacco during the current school year (7% of high school students and 14% of middle school students).

Comparing Tobacco Use in Charter and District Schools

- Reported tobacco use was markedly higher among students in charter schools than those in district schools. At the middle school level, 18% of students in charter schools used some form of tobacco during the 30 days prior to the survey compared to 14% of students in district schools. At the high school level, 43% of students in charter schools reported using some form of tobacco during the 30 days prior to the survey compared to 25% of students in district schools.

- Smoking was much more prevalent in charter high schools than in district high schools. Thirty-six percent of students attending charter high schools were current smokers (smoked during the past 30 days) compared to 18% of students attending district high schools, a ratio of two to one. The difference was not as great between charter and district middle schools. In middle schools, 12% of students attending charter schools were current smokers, compared to 9% in district schools.

Conclusions and Recommendations

Arizona has made progress in curbing smoking among middle and high school students. In the early to mid-1990s, 30-day smoking prevalence rates for high school students were estimated to range between 25% and 30% (YRBS 1991, 1993, 1995). In this survey, the estimate was around 19%, which represents a drop of over 30%. Among middle school students, 30-day smoking prevalence rates were estimated to range between 17% and 18% in the early to mid 1990s (YRBS 1991, 1993, 1995). In 2003, the estimate was around 9%, which represents a drop of over 45%. Arizona's prevalence rates are slightly lower than national rates (National Youth Tobacco Survey, 2002; National Youth Risk Behavior Survey, 2003). It is very likely that Arizona's youth prevention program has contributed to the decline in youth smoking.

However, the rates mentioned above do not represent the youth smoking rates for Arizona, because they do not include the many youth who were not attending school. In 2003, approximately 8.5% of high school students dropped out of school in Arizona[1]. Of the 9th graders who entered high school in 1998, around 75% graduated[2]. According to the literature on at-risk youth, school leavers are more likely to engage in high-risk behaviors, including tobacco use, than youth who stay in school[3]. Therefore, we can assume that the youth smoking rates for Arizona are higher than the ones reported in this document.

Despite the progress, more can be done:

1) to prevent those who are most at risk from initiating;
2) to prevent those who have initiated from becoming establish users,
3) and to help those who have made attempts to quit.

The data from this survey show that ever, current, and frequent use of tobacco increase at nearly every grade level. Prevention programs tend to target middle school students, but few high school students reported participating in a school event to discourage tobacco use or practiced tobacco refusal skills during the current academic year.

However, the challenge is to come up with prevention programs that appeal to high school students and, at the same time, are effective. Current prevention education programs turn high school students off more than they engage them, especially those who are most at risk or already use tobacco. According to the Southwest Center for Substance Abuse Prevention, stand-alone prevention programs that focus only on one high-risk behavior have little probability of success unless they are tied to strong media campaigns, actively engage students throughout middle and high school, and involve change at a local community level[4].

Data from this survey indicate that many students are exposed to dangerous levels of second-hand smoke at home, live in a household where adult smoking is the norm, are successful in purchasing cigarettes from commercial sources, and hear little from doctors and dentists about the dangers of using tobacco.

[1] Dropout Rate Study: 2002-2003 Annual Drop Out Rates, Brian R. Owen, Research and Policy Section, Arizona Department of Education.
[2] Graduation Rate Study: Four and Five Year Graduation Rates for The Cohort Class of 2002, Brian R. Owen, Research and Policy, Arizona Department of Education. Measure represents those who completed high school in 4 or 5 years.
[3] National Alternative High School Youth Risk Behavior Survey, 1998, Centers for Disease Control.
[4] Science-based Prevention, www.swcapt.org.

Possible areas for discussion and development of further prevention programming that could have an impact on youth smoking:

- Investigate how best to channel prevention education dollars and programs towards students who are at high and medium risk (including students who attend charter high schools).

- Develop a strong anti-tobacco media campaign for youth that is tied to prevention education programming.

- Develop messages targeting parents who smoke about the impact of second hand smoke on their adolescent children and how their smoking makes it much more likely that their adolescent children will smoke.

- Conduct inspections of retail tobacco vendors that are close to schools and places where students and youth congregate.

- Get physicians and dentists to talk about the health implications of tobacco use during visits with middle and high school-aged patients.

- Promote cessation services to smoking parents during pediatric visits.

- Conduct pilot cessation interventions for teens.

1. Introduction

Design and Purpose of the Survey

The 2003 Arizona Youth Tobacco Survey, completed in the spring of 2003, is the second in a series of biannual school-based surveys first implemented in the spring of 2000. The survey is designed to help monitor trends in tobacco use among public school students in grades 6 through 12 and to compare changes in rates over time. The survey also collects data on topics including: tobacco use; tobacco-related knowledge, attitudes and beliefs; access to tobacco products; exposure to environmental tobacco smoke; initiation and cessation; influence of family, friends and the media; and social, school and community interventions.

The 2003 Arizona YTS was centrally coordinated by the Arizona Tobacco Education and Prevention Program, under the Arizona Department of Health Services, in collaboration with the Arizona Department of Education and the Centers for Disease Control, Office on Smoking and Health (CDC).

The survey consisted of 84 questions, including approximately 65 core questions from the CDC's Youth Tobacco Survey. The data presented in this report are based on responses collected from 6620 middle and high school students in randomly selected public schools (both district and charter) across the state. Results are presented for middle school students (grades 6-8) and high school students (grades 9-12).

The result of the survey can be used for enhancing the design, implementation and evaluation of comprehensive tobacco prevention and control programs. Combined with data from other sources, the results can be used to target youth who are at higher risk of tobacco use. The results are also used to compare Arizona students' tobacco use rates with those of students from other state and nationwide.

2. Prevalence of Tobacco Use

In this section, we present prevalence rates for students who reported using any type of tobacco product, not just cigarettes, since all forms of tobacco are covered in the survey. Section 3 of the report focuses exclusively on smoking.

2.1 Ever, Current, and Frequent Tobacco Use

Over two-fifths of middle school students (41.7%) and three-fifths of high school students (62%) reported ever trying some form of tobacco in their lifetime (Figure 1). Current use, defined as the use of any form of tobacco during the past 30 days, including just a puff of a cigarette or dip of chew, was reported by 14.5% of middle school students and 26% of high school students (Figure 2). Cigarettes were the most commonly used form of tobacco by both ever and current users in middle and high school. Current smoking was reported by about 9% of middle school students and 19% of high school students. Current use of cigars and cigarillos was nearly 6% for middle school students and 12% for high school students. The rates for additional tobacco products are reported in Figures 1 and 2, below.

Figure 1.

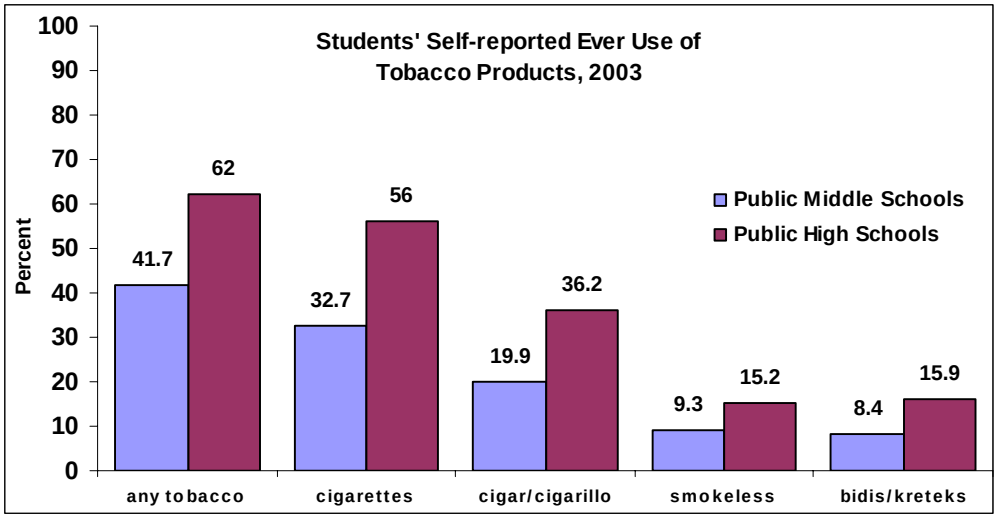
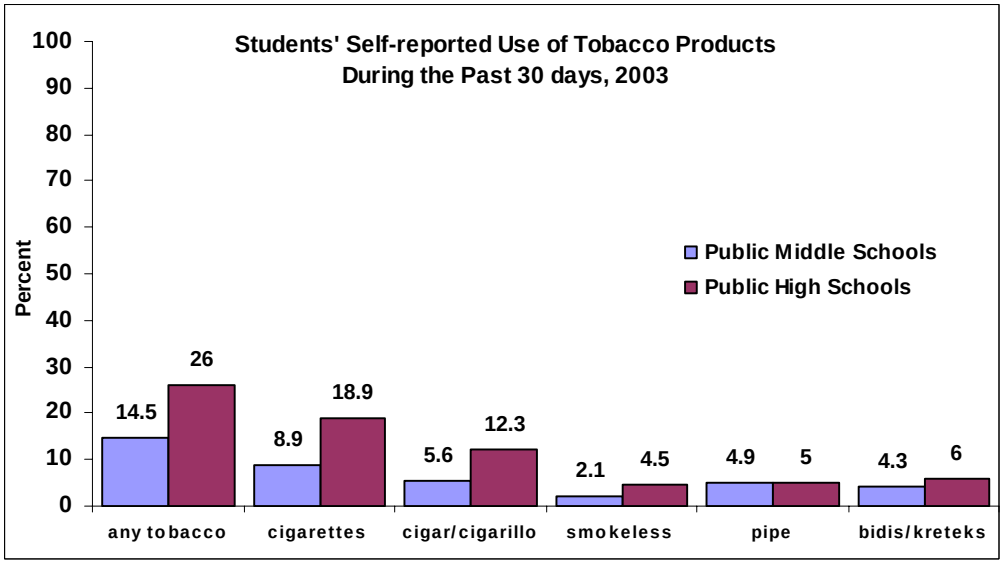


Figure 2.



Frequent tobacco use, defined as use on 20 or more of the past 30 days, approaches the level of use reported by adults, and was reported by 2.3% of middle school students and 7.8% of high school students (Figure 3). About 62% of these students reported living with a smoker.

Figure 3.

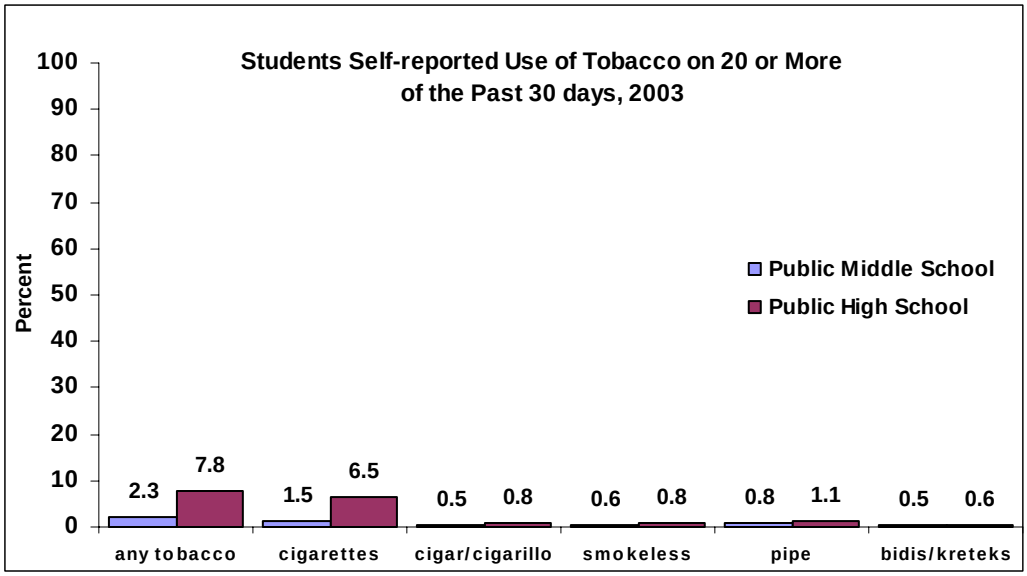
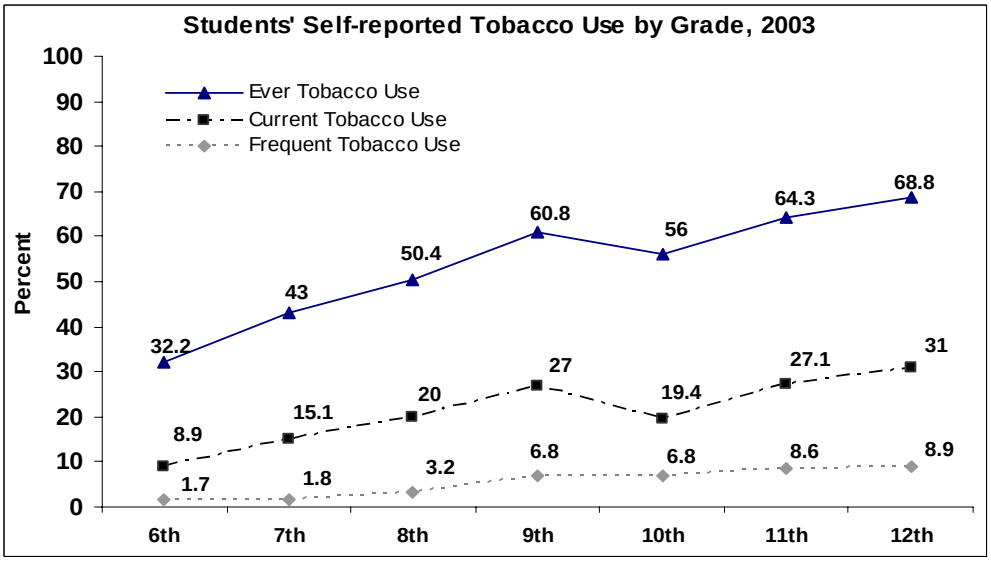


Figure 4 presents tobacco use by grade. The overall trend shows that tobacco use typically increased by grade, and therefore by age. There was, however, a noticeable drop in the percentage of ever and current users between the 9th and 10th grades. Adolescents typically reach age 16 when they are in 10th grade. They are permitted by law to drop out of high school at age 16. Therefore, the dip in prevalence between 9th and 10th grades may be a result of 10th graders dropping out of school. We believe this is a reasonable hypothesis, since a negative schooling experience or a negative attitude towards school is associated with adolescents who engage in high risk behaviors, many of whom drop out (2004 Arizona Risk Behavior Survey). The rates for frequent users, however, did not drop between 9th and 10th grades.

Figure 4.



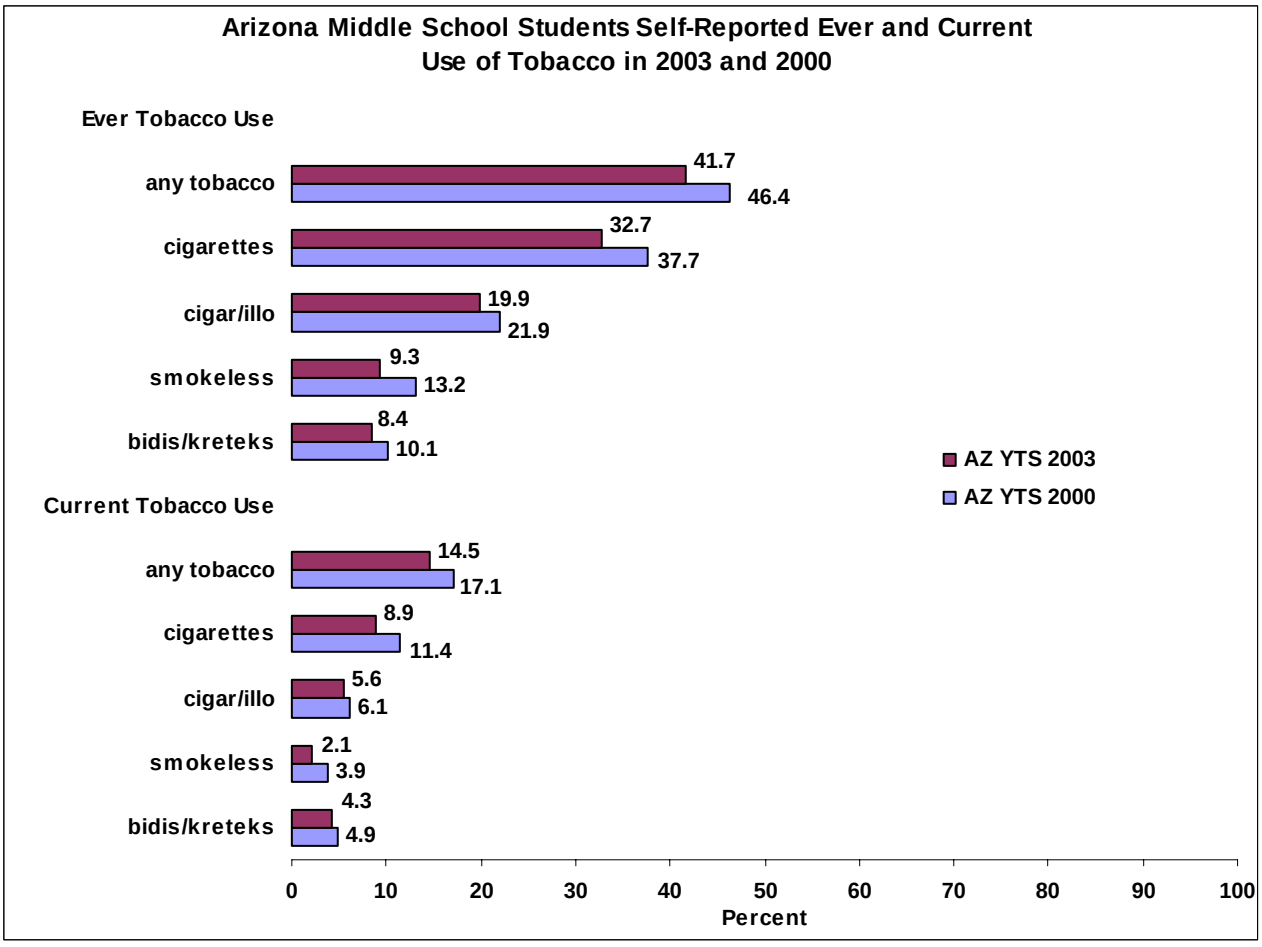
In 12th grade, 31% of the students reported using tobacco during the past 30 days. This sets the stage for the high smoking prevalence rate (29%) for the 18-24 age group reported in the 2002 Arizona Adult Tobacco Survey.

2.2 Tobacco Use Trends in Arizona between 2000 and 2003

A comparison of the prevalence rates for middle school students from the 2000 and 2003 Youth Tobacco Surveys indicates that the percent of students who reported ever and current tobacco use has declined slightly for all types of tobacco (Figure 5). Comparing the two years, there is a difference of nearly 5% in ever tobacco use rates and of 2.5% in current use rates. Ever cigarette use decreased from 37.7% in 2000 to 32.7% in 2003, while current cigarette use decreased from 11.4% to 8.9%.

(Comparable data are not available for high school students, due to low response rates to the YTS 2000 high school survey).

Figure 5.



2.3 Comparing Arizona Prevalence Rates with National Prevalence Rates

Overall, Arizona prevalence rates for middle and high school students fall at or slightly below those reported on the 2002 National Youth Tobacco Survey (Figures 6 and 7) and the 2003 National Youth Risk Behavior Survey (Figure 8). There are two cases where Arizona middle school students have slightly higher use rates than the national mean: ever use of cigars or cigarillos (19.9% versus 19.3%) and current use of any tobacco (14.5% versus 13.3%). All of the Arizona high school rates are slightly lower than the national prevalence rates.

Figure 6.

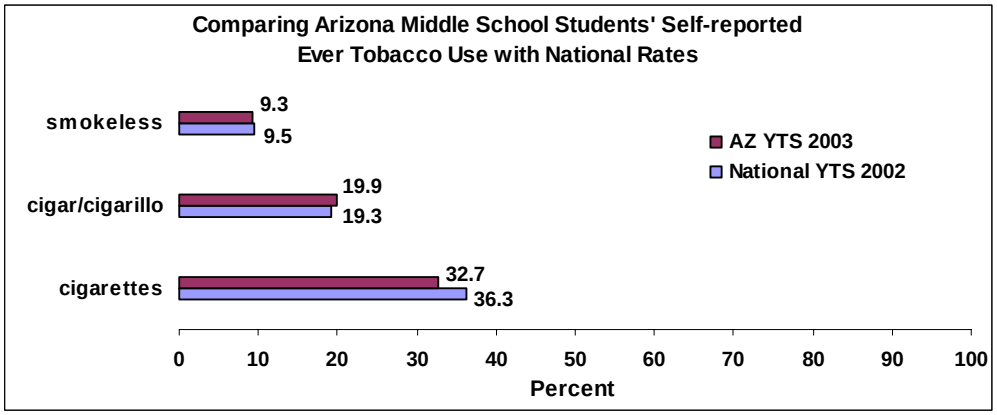


Figure 7.

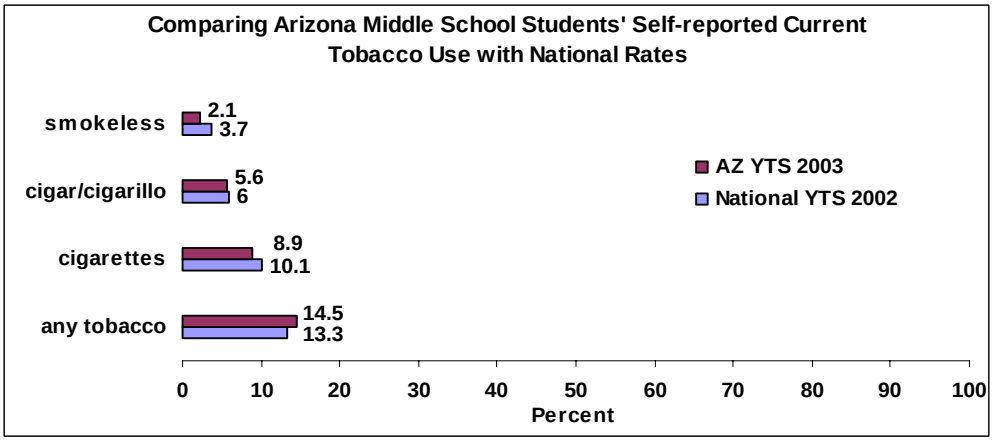
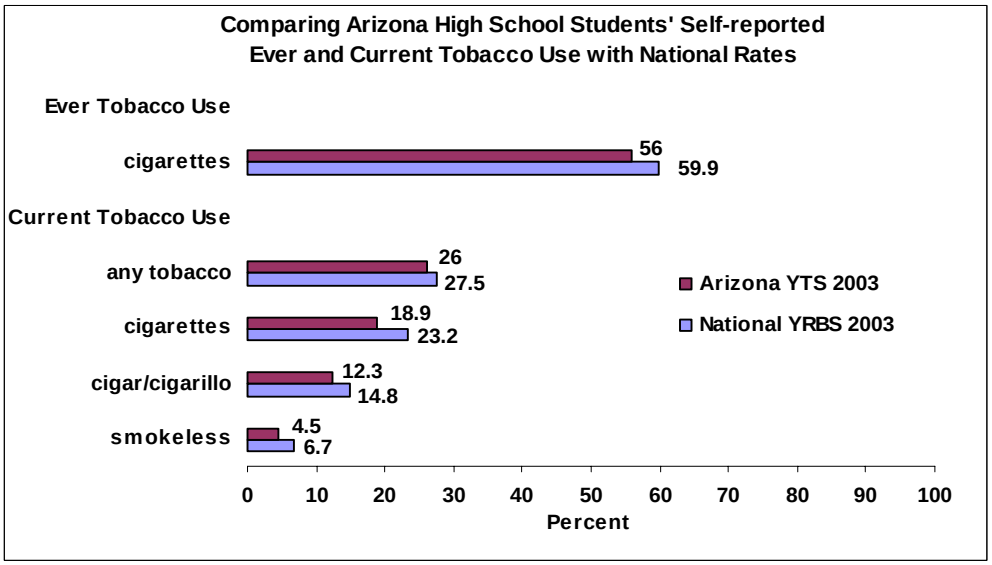


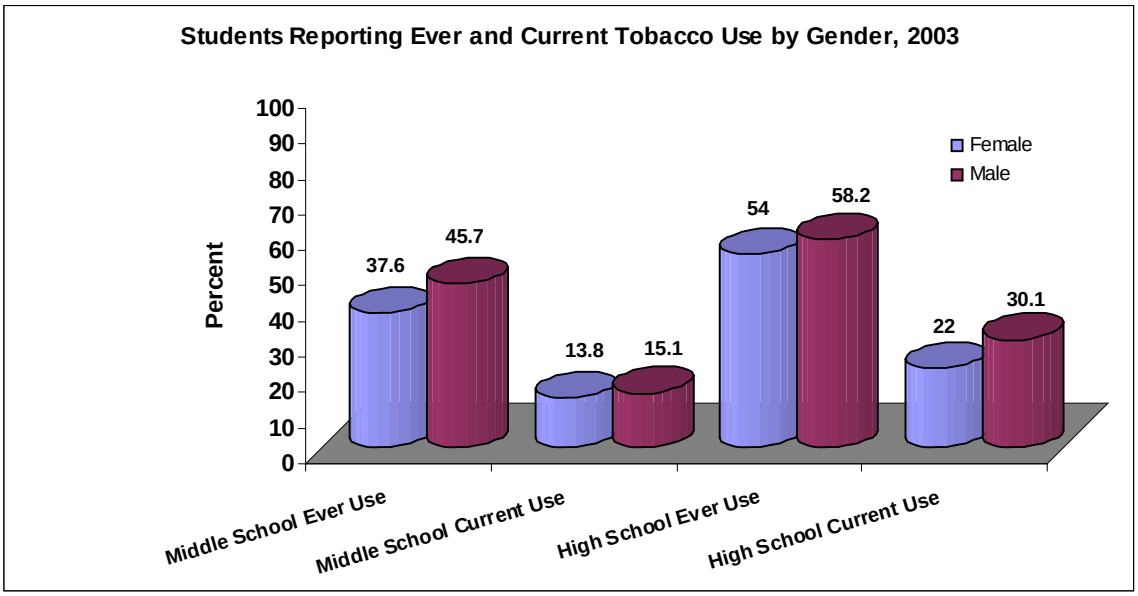
Figure 8.



2.4. Tobacco Use by Gender

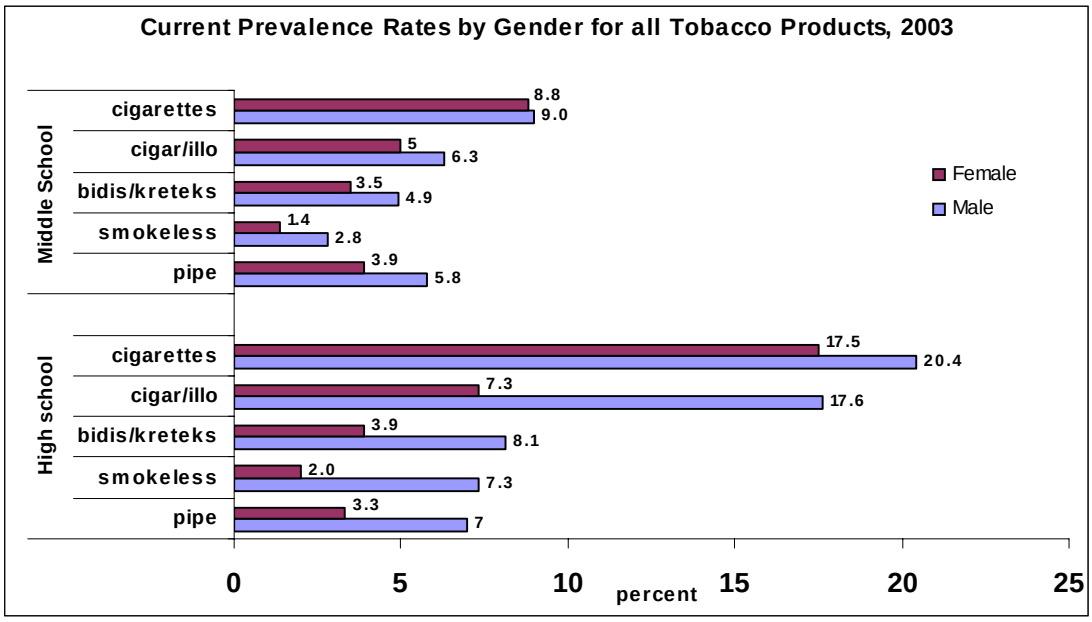
Male students in middle and high school reported higher ever and current tobacco use rates than their female counterparts (Figure 9). More males than females reported ever using tobacco in middle and high school. The percent of males reporting current use in middle school was only 1.4% higher than females, but the difference widened to 8% in high school (30% for males versus 22% for females).

Figure 9.



Girls have lower prevalence rates than boys for all tobacco products (Figure 10). However, the gender difference is greatest for tobacco products other than cigarettes. Current cigarette use for middle schools girls (8.7%) and boys (9%) is virtually the same. At the high school level, the prevalence rate is 17.4% for females compared to 20.2% for males (Figure 10). In high school, the gender difference in use of other tobacco products is particularly pronounced. For example, current use of cigar/illos was 7.3% for females in high school compared to 17.6% for males. High school males reported more than twice the current use rate of females for bidis/kreteks, pipes, and smokeless tobacco. It appears that male students are more prone to use of tobacco products other than cigarettes than female students.

Figure 10.



2.5 Tobacco Use by Ethnic Groups

There are important differences in ever, current and frequent tobacco use rates across ethnic groups (see Figures 11 to 13 below). The table below shows the highest and lowest use rates by ethnic group in middle and high school. Overall, Asians students reported the lowest tobacco use rates.

Table 1. Highest and Lowest Ever, Current and Frequent Tobacco Use by Ethnic Group

		Ever Use		Current Use		Frequent Use	
Middle school	highest	American Indian	55.9%	American Indian	52.2%	African American	7.6%
	lowest	Asian	22.3%	Asian	8.4%	Asian	0.6%
High School	highest	American Indian	90.2%	American Indian	28.2%	American Indian	10.4%
	lowest	Asian	53%	Hawaiian/Pacific Islander	14.7%	Hispanic	3.1%

American Indian students reported the highest use of tobacco in middle and high school for both ever and current use, and for frequent use in high school. The ever tobacco use rate for American Indians was 10% higher than any other ethnic group in middle school (55.9%), and over 20% higher than any other ethnic group in high school (90.2%). Current tobacco use rates were 8% higher in middle school (28.2%) and 25% higher in high school (52.2%) than any other ethnic group. Frequent use rates were 10.4% in high school, slightly higher than that of whites at 9.8%.

It is important to recognize, however, that any use of tobacco for traditional or ceremonial practices was not recorded in the survey and may be contributing to these rates. In addition, the sample of American Indian students was small, and was located mostly in urban areas.

Ever, current, and frequent tobacco use rates are presented for all ethnic groups in Figures 11-13.

Current smoking rates by ethnicity are presented on page 26.

Note: All prevalence rates reported for Asians and Hawaiian/Pacific Islanders must be interpreted with caution due to small sample size. Table A9 in the Appendix (p. 73) presents the unweighted counts of students who participated in the survey by ethnic group.

Figure 11.

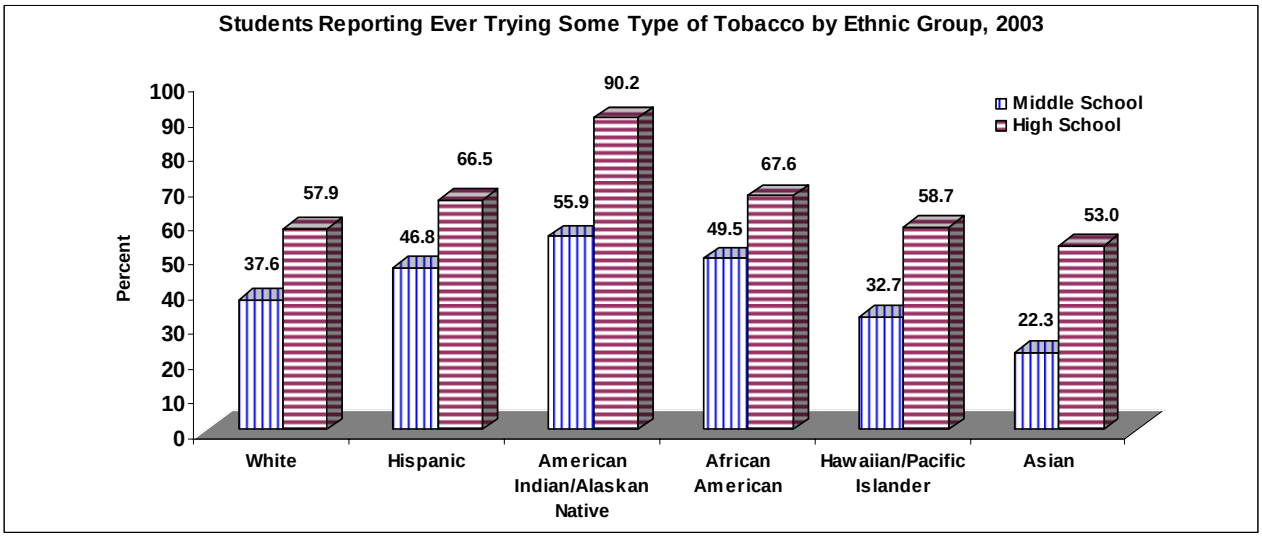


Figure 12.

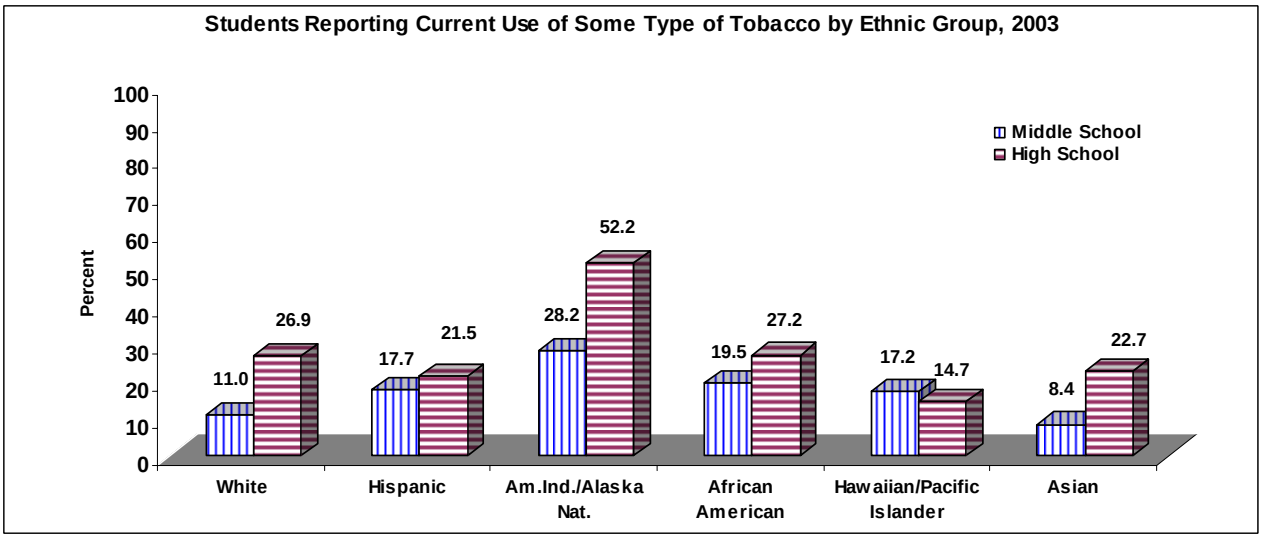
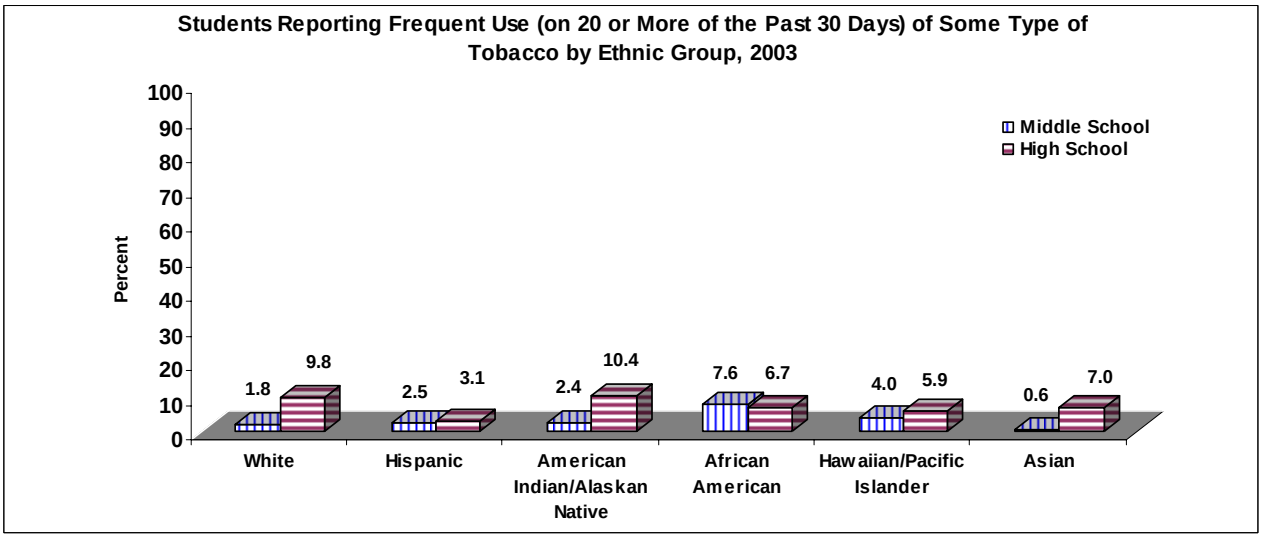


Figure 13.



3. Starting, Progressing towards Established Smoking, and Quitting: Where Arizona Students Fall on the "Smoking Continuum"

Numerous reports point to the preteen and teenage years as the most vulnerable for taking up and becoming addicted to tobacco. On average, adult current smokers in Arizona reported that they began experimenting with tobacco at age 14, and became regular smokers at age 18[5].

Intervening in the uptake of tobacco by young people is considered the greatest leverage point in tobacco prevention. In order to understand how youth begin smoking and to identify patterns of progressing towards habitual smoking (or not), the American Legacy Foundation uses a model that is referred to commonly in tobacco prevention literature and describes four distinct stages of tobacco uptake and use[6]. They are: openness to smoking (susceptibility), experimentation, non-daily smoking, and established smoking. In this report, we have expanded this model slightly to include gradations of smoking frequency and intensity among current youth smokers (past 30 day) in Arizona. We use this "smoking continuum" to attempt to identify trends and characteristics across groups at different stages of smoking, not only regarding smoking behavior, but also regarding attitudes and beliefs, influence of family and friends, and influence of the media.

Being able to identify and locate young people who are in the earliest stages of susceptibility and experimentation offers the opportunity to provide interventions that may avert them from becoming established smokers. Identifying characteristics of already established smokers may provide information on how to help other young people avoid getting to that stage, and may also help identify ways to help them give up tobacco before it turns into a life long habit with severe health consequences.

3.1. Susceptibility, Experimentation, and Moving Towards Established Smoking

Our "smoking continuum" classifies all students into categories of smokers, from committed never smokers to established smokers. Current smokers are split up into occasional, initiated, near established and established smokers, based on the frequency and intensity of their smoking behavior. The categories and their definitions are presented in Table 2, below. The percent of students falling into each category is presented in Figure 14.

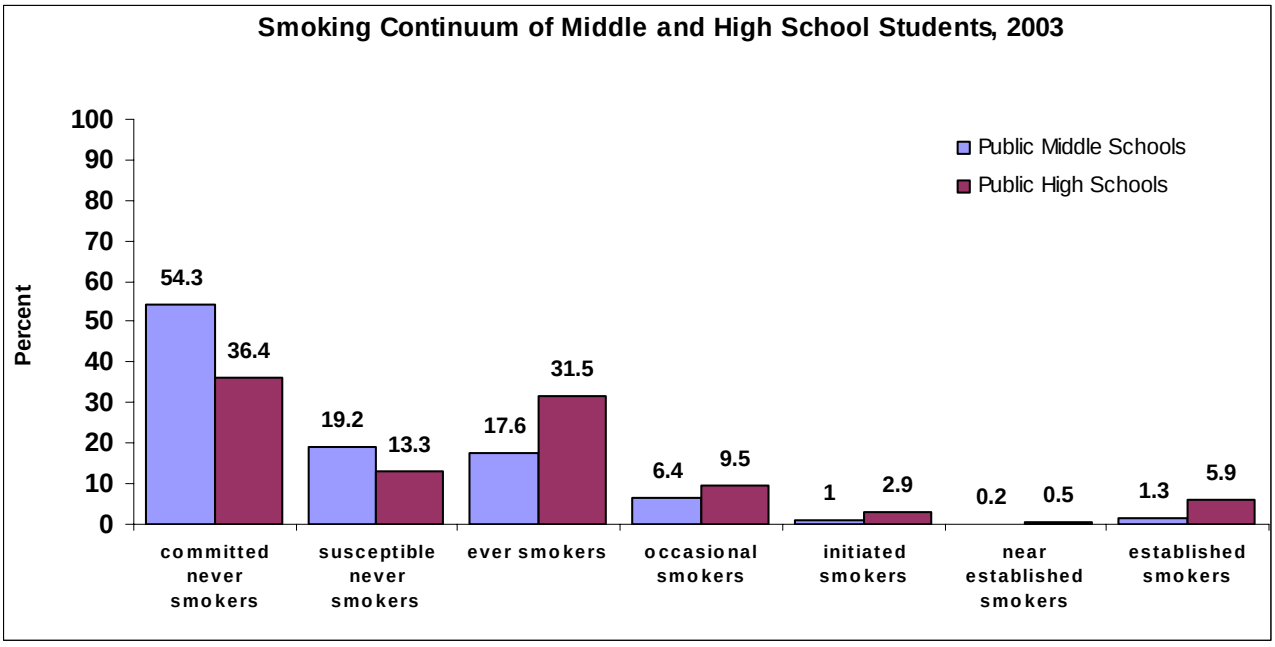
Two of the cut-off points we used to formulate the categories were: a) whether a student had smoked more or fewer than 100 cigarettes in his or her lifetime (approximately 5 packs of cigarettes), and b) whether the student had smoked on more or fewer than 20 of the past 30 days. These categories are standard in reporting results from CDC school-based surveys and in the tobacco prevention literature.

[5] Arizona Adult Tobacco Survey, Executive Report, 2004.
[6] Pathways to Established Smoking: Results from the 1999 National Youth Tobacco Survey, Legacy First Look Report #3, October 2000, www.americanlegacy.org (publications).

Table 2. The Smoking Continuum: Categories and Definitions

Category of Smoker	Frequency of Smoking	Lifetime Number of Cigarettes
Never Smokers	Have never tried even a puff	
1. Committed Never Smokers	Report they are definitely certain they will not try tobacco in the future	0
2. Susceptible Never Smokers	Report they are **not** definitely certain they will not try tobacco in the future	0
Ever Smokers		
3. Ever Smokers	Have tried cigarettes, but not in the past 30 days	1 puff to any number of cigarettes
Current Smokers:	Smoked during past 30 days	
4. Occasional	Fewer than 20 of the past 30 days	Fewer than 100
5. Initiated	Fewer than 20 of past 30 days	100 or more
6. Near Established	On 20 or more of past 30 days	Fewer than 100
7. Established	On 20 or more of past 30 days	100 or more

Figure 14.



Never smokers and their susceptibility to smoking initiation

To identify students who were susceptible to experimenting with smoking, we again turned to work done by the American Legacy Foundation for definitions which have been widely used in the literature[7]. Students participating in the 2003 YTS who reported never smoking were considered susceptible to smoking initiation if they answered *any* of the three questions in Table 3 with a response *other than* "*no"* or "*definitely not."* All students responding with "*yes," "definitely yes,"* or "*probably not,"* were considered "susceptible never smokers." In contrast, students answering "*no"* or "*definitely not"* to all three questions were considered "committed never smokers."

Using those criteria, 19.2% of middle schools students and 13.3% of high school students who had never previously tried a cigarette exhibited susceptibility to smoking (Table 3).

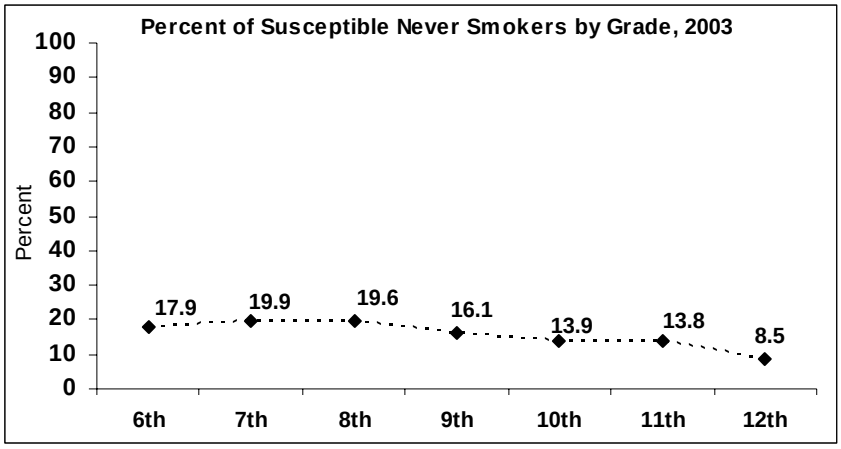
Table 3. Identifying Students Susceptible to Experimenting with Smoking

Susceptibility to smoking	Answers exhibiting susceptibility			Public Middle Schools	Public High Schools
1. Do you think you will try a cigarette soon?	***(have already tried cigarettes)***	***Yes***	***Probably Not***		
2. Do you think you will smoke a cigarette at any time during the next year?	***Definitely yes***	***Probably Yes***	***Probably Not***		
3. If one of your best friends offered you a cigarette, would you smoke it?	***Definitely yes***	***Probably Yes***	***Probably Not***		
		TOTAL SUSCEPTIBLE NEVER SMOKERS		**19.2%**	**13.3%**

Looking at susceptibility rates by grade level (Figure 15), we observe that rates were highest among 8th graders at 19.6% and lowest among 12th graders at 8.5%. This is not unexpected. Susceptibility rates for high school students are typically lower because they have already tried smoking, and more are therefore categorized as "ever" smokers.

[7] Ibid.

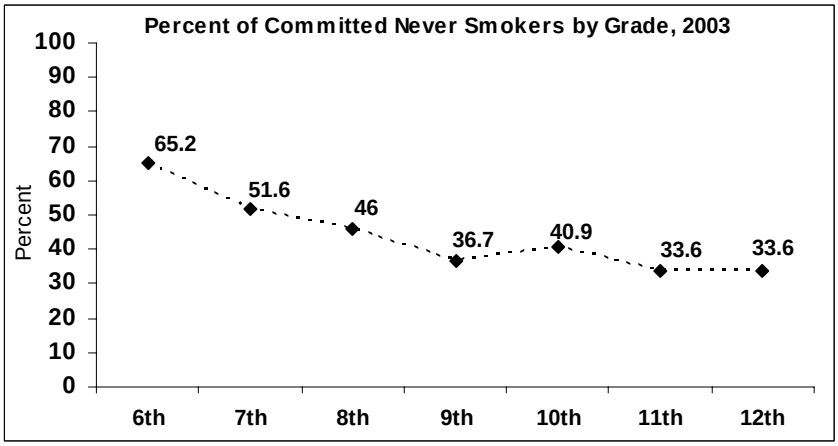
Figure 15.



Committed Never Smokers

Many students who reported they had never smoked indicated consistently that they were not interested in trying. Among middle school students, 54.3% indicated that they were definitely not interested trying smoking or planning to smoke in the future. At the high school level, 36.3% of the students demonstrated no interest in taking up tobacco. Comparing students by grade level, we observe that the percent of committed never smokers was lower for each subsequent grade in middle school, dropped substantially between middle and high school (8^{th} and 9^{th} grades) and varied slightly between 9^{th} and 12^{th} grades.

Figure 16.



Looking back at the data from the 2000 YTS, 50% of the middle school students had indicated they were not interested in taking up smoking and didn't plan to smoke in the future. Students from that age group constituted part of the high school cohort in the 2003 YTS. In 2003, only 36% of high school students could be classified as committed never smokers, demonstrating that commitment to not smoking waned among some students in that cohort between middle to high school. We know from the literature that students' interest in experimenting with and taking up tobacco persists through the high school grades[8].

[8] Farrelly, M, Faulkner, D., "Legacy First Look Report 1, Cigarette Smoking Among Youth: Results from the 1999 National Youth Tobacco Survey". American Legacy Foundation, June, 2000, www.americanlegacy.org/americanlegacy/skins/alf/home.aspx

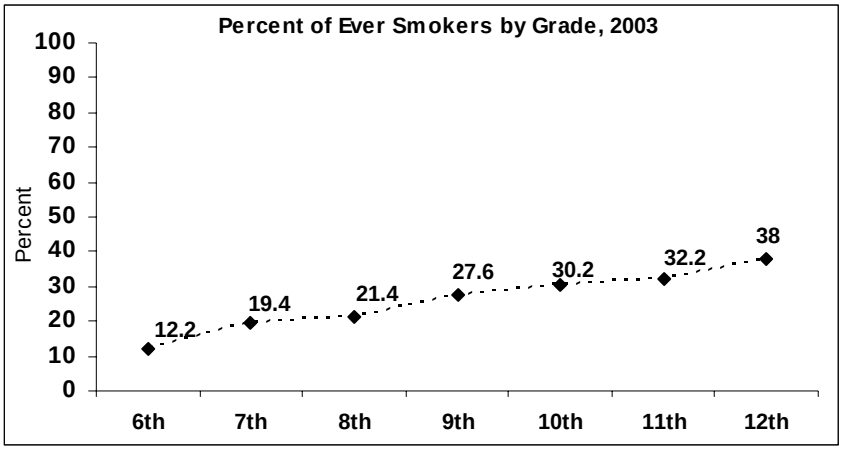
Ever Smokers

Ever smokers have tried at least one puff of a cigarette in the past, but not during the past 30 days. This category comprises the largest group of student smokers for both middle school (17.6%) and high school students (31.5%). Many are not likely to persist in smoking, but some are at risk of becoming full-fledged smokers in the future. Among middle school ever smokers, 68.4% reported they had smoked a single cigarette or less in their lifetime. Among high school ever smokers, 45.5% reported smoking a single cigarette or less.

As to when they last smoked, 50% of ever smokers in middle school and 53% in high school reported that they had smoked their last cigarette over one year ago. However, 28% in middle school and 27% in high school reported smoking their last cigarette between 1 and 6 months ago and may therefore be more at risk for taking up tobacco again in the future.

While ever smoking is clearly a gateway towards future experimentation, for many students smoking a single cigarette, or only part of one, just once in their life, is the extent of their smoking experience. Understanding why that experience suffices for some young people and not for others and how to identify the latter to target them with effective interventions are key challenges facing prevention educators.

Figure 17.



The data trend presented in Figure 20 is remarkably regular. It shows that between grades 6 and 12, approximately 4% more students at each grade level has tried smoking.

A Closer Look at Various Groups of Current Smokers

All the groups described below fall under the category of current smokers, having smoked at least one puff of a cigarette during the 30 days prior to the survey.

Occasional Smokers

After ever smokers, occasional smokers are the second largest category of smokers among students: 6.4% of middle school and 9.5% of high school students (Figure 14). These students reported smoking *fewer* than 100 cigarettes in their lifetime, and on fewer than 20 of the past 30 days. We found that 61% of the middle school students and 50% of the high school students in this group reported smoking on only 1 or 2 of the past 30 days (Table 4). Regarding the number of cigarettes, 69% of the middle school students and 72% of high school students in this group smoked one cigarette or less per day, on average, on the days they smoked (Table 5). Only 19% of the middle school students and 23% of the high school students in this group smoked on more than 5 of the past 30 days. Many of the smokers in this group could be considered "experimenters."

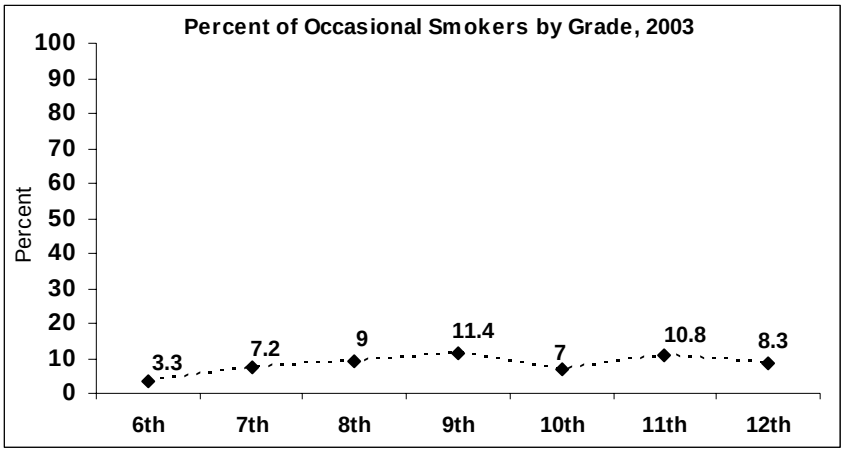
Table 4. Occasional smokers: number of days smoked during the past 30 days

Number of Days Smoked during the Past 30 Days	Occasional Smokers in Middle School	Occasional Smokers in High School
1 or 2 days	61.2%	50.1%
3 to 5 days	19.4%	27.1%
6 to 9 days	15.5%	13.0%
10 to 19 days	3.9%	9.7%
Total	100%	100.%

Table 5. Occasional smokers: number of cigarettes smoked, on average, on the days they smoked

Number of Cigarettes Smoked Per Day During the Past 30 Days	Occasional Smokers in Middle School	Occasional Smokers in High School
Less than 1 cigarette per day	46.8%	35.0%
1 cigarette per day	22.5%	36.7%
2 to 5 cigarettes per day	26.4%	27.3%
6 to 10 cigarettes per day	2.2%	0.9%
11 to 20 cigarettes per day	1.3%	0.1%
More than 20 cigarettes per day	0.8%	0.1%
Total	100.0%	100.0%

Figure 18.



Looking at occasional smokers by grade, the percent increased steadily from grade 6 to grade 9, where it peaked at 11.4%. This smoking category has the biggest dip between grades 9 and 10. If the dip is related to student smokers dropping out of school, one might have expected that established smokers would have the biggest dip between grades 9 and 10. However, there is an increase of established smokers between grades 9 and 10. If occasional smokers are not dropping out of school after 9th grade, other explanations need to be found.

Initiated Smokers

These students have smoked *more* than 100 cigarettes in their lifetime, but smoked on fewer than 20 of the 30 days prior to the survey. One percent of middle school students and 2.9% of high school students were initiated smokers (Figure 19). They are distinguished from the occasional smokers in that they smoked a greater number of cigarettes in their lifetime, but like them were not yet daily smokers. Because of the total number of cigarettes they smoked, they were further along in the smoking process. On average, they smoked nearly every other day during the past 30 days (slightly less in middle school) and they smoked between 2 and 5 cigarettes on the days they smoked (Tables 6 and 7).

Table 6. Initiated smokers: number of days they smoked during the past 30 days

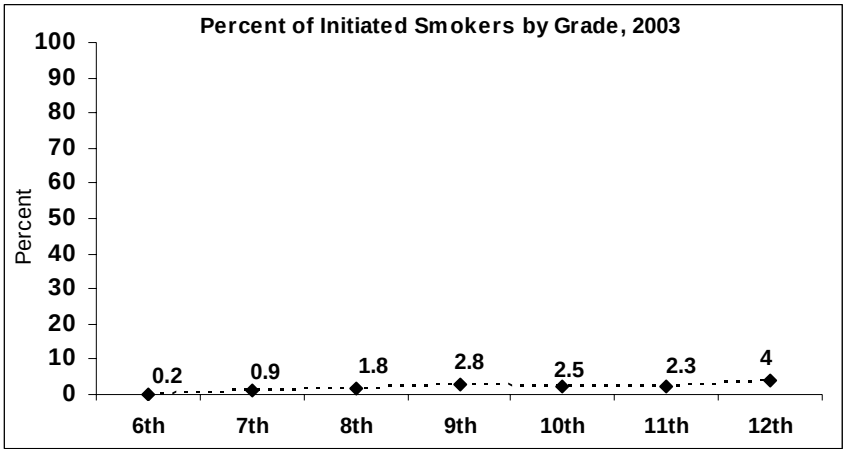
Number of Days Smoked during the Past 30 Days	Initiated Smokers in Middle School	Initiated Smokers in High School
1 or 2 days	19.8%	16.6%
3 to 5 days	20.4%	14.0%
6 to 9 days	14.2%	14.6%
10 to 19 days	45.6%	54.7%
Total	100.0%	100.0%

Table 7. Initiated smokers: number of cigarettes smoked, on average, on the days they smoked

Number of Cigarettes Smoked Per Day During the Past 30 Days	Initiated Smokers in Middle School	Initiated Smokers in High School
Less than 1 cigarette per day	0.0%	6.5%
1 cigarette per day	27.2%	23.4%
2 to 5 cigarettes per day	59.9%	67.0%
6 to 10 cigarettes per day	0.5%	3.0%
11 to 20 cigarettes per day	5.9%	0.1%
More than 20 cigarettes per day	6.5%	0.0%
Total	100.0%	100.0%

The percent of initiated smokers ranged from .2% of 6th graders to 4% of high school seniors (Figure 19).

Figure 19.



Near-Established Smokers

This group of students smoked less than 100 lifetime cigarettes, but they reported smoking on 20 or more of the past 30 days, demonstrating an intensive uptake pattern, approaching or having reached daily smoking (Table 8). This quick uptake puts them at high risk of becoming established smokers and at high risk of addiction. This category of current smokers has the fewest members, only 0.2% of middle school students and 0.5% of high school students (Figure 20), but because of their quick uptake, they are noteworthy as a distinct category. The quick uptake patterns varied across middle and high school students. While 40% of middle school students in this group reported smoking 1 cigarette per day, 20% reported smoking more than 20 cigarettes per day. In high school, about half the students in this group smoked 2 to 5 cigarettes per day, and less than 1% reported smoking more than 20 cigarettes per day (Table 9).

(Note: Because the total number of students in this category is small, the results of cross-tabulations with other survey variables in some of the graphs presented below are not stable for this group).

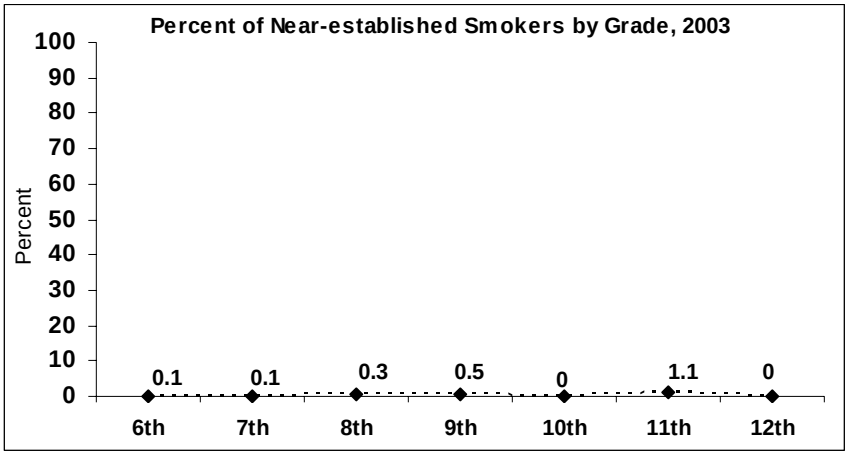
Table 8. Near-established smokers: number of days smoked during past 30 days

Number of Days Smoked during the Past 30 Days	Near-established Smokers in Middle School	Near-established Smokers in High School
20 to 29 days	66.3%	45.3%
All 30 days	33.7%	54.8%
Total	100%	100%

Table 9. Near-established smokers: number of cigarettes smoked, on average, on the days they smoked

Number of Cigarettes Smoked Per Day During the Past 30 Days	Near-established Smokers in Middle School	Near-established Smokers in High School
Less than 1 cigarette per day	4.5%	0.6%
1 cigarette per day	40.6%	27.2%
2 to 5 cigarettes per day	32.0%	49.1%
6 to 10 cigarettes per day	2.5%	22.4%
11 to 20 cigarettes per day	0%	0%
More than 20 cigarettes per day	20.5%	0.6%
Total	100%	100%

Figure 20.



Quick uptake occurred most frequently in grade 11, but no cases appeared in grades 10 and 12.

Established Smokers

Students who reported smoking *more* than 100 cigarettes in their lifetime and on *more* than 20 of the past 30 days are classified as established smokers. Just over one percent (1.3%) of middle school students and nearly six percent (5.9%) of high school students fell into this category (Figure 14). Most of these students reported smoking every day (Table 10). A larger proportion of middle school students than high schools students reported smoking more than 20 cigarettes per day (42.4% compared to 12.6%). Forty-two percent of high school students reported smoking between 2 and 5 cigarettes per day (Table 11). Seventy-one percent of established smokers in middle school and 62% in high school reported living with someone who smokes (See Figure 47).

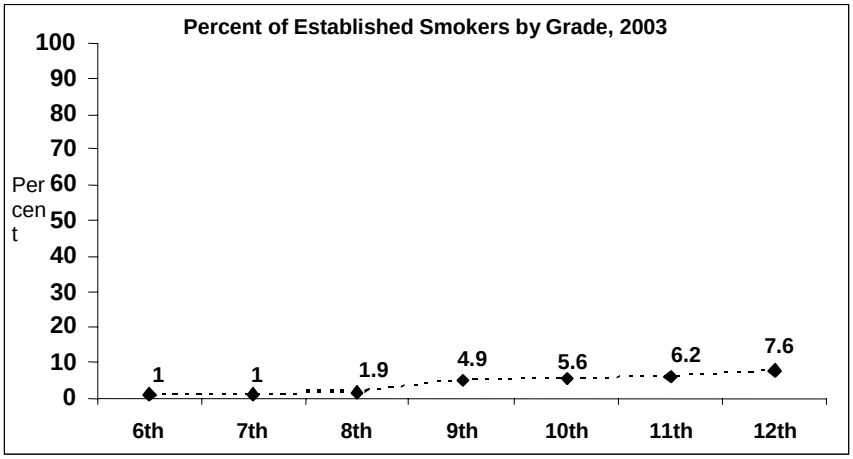
Table 10. Established smokers: number of days smoked during past 30 days

Number of Days Smoked during the Past 30 Days	Established Smokers in Middle School	Established Smokers in High School
20 to 29 days	18.7%	27.5%
All 30 days	81.3%	72.5%
Total	100.0%	100.0%

Table 11. Established smokers: number of cigarettes smoked, on average, on the days they smoked

Number of Cigarettes Smoked Per Day During the Past 30 Days	Established Smokers in Middle School	Established Smokers in High School
Less than 1 cigarette per day	0.0%	0.1%
1 cigarette per day	8.8%	0.2%
2 to 5 cigarettes per day	15.4%	42.3%
6 to 10 cigarettes per day	25.2%	24.5%
11 to 20 cigarettes per day	8.3%	20.4%
More than 20 cigarettes per day	42.4%	12.6%
Total	100.0%	100.0%

Figure 21.



The percentage of established smokers ranged from 1% in 6th grade to 7.6% in 12th grade. There was a jump in this category between middle and high school (between 8th and 9th grades), with a steady increase through grade 12.

3.2 Smoking Continuum by Gender

Males and females in middle and high school are smoking cigarettes at similar rates (Figures 22 and 23). Answers to questions about smoking frequency and numbers of cigarettes are extremely close for boys and girls in middle and high school across the smoking continuum. In middle school, there are a few more female never and occasional smokers, and a few more male ever, initiated, near establish and established smokers. At the high school level, males and females report nearly identical responses for most categories, though there are slightly more female committed never smokers and there are more male established smokers (7.5% compared to 4.5%).

Figure 22.

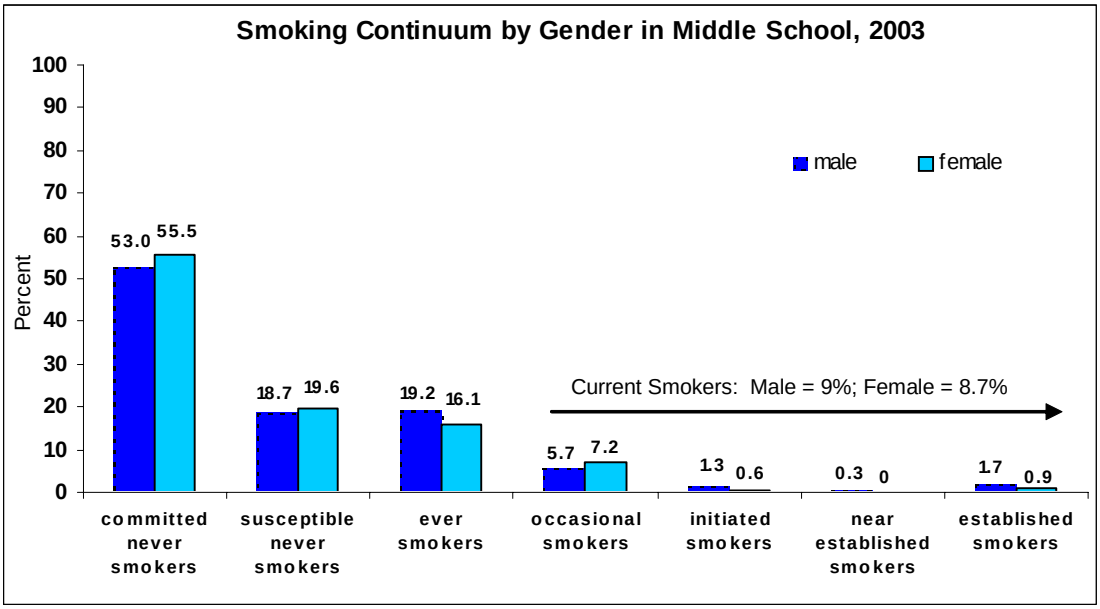
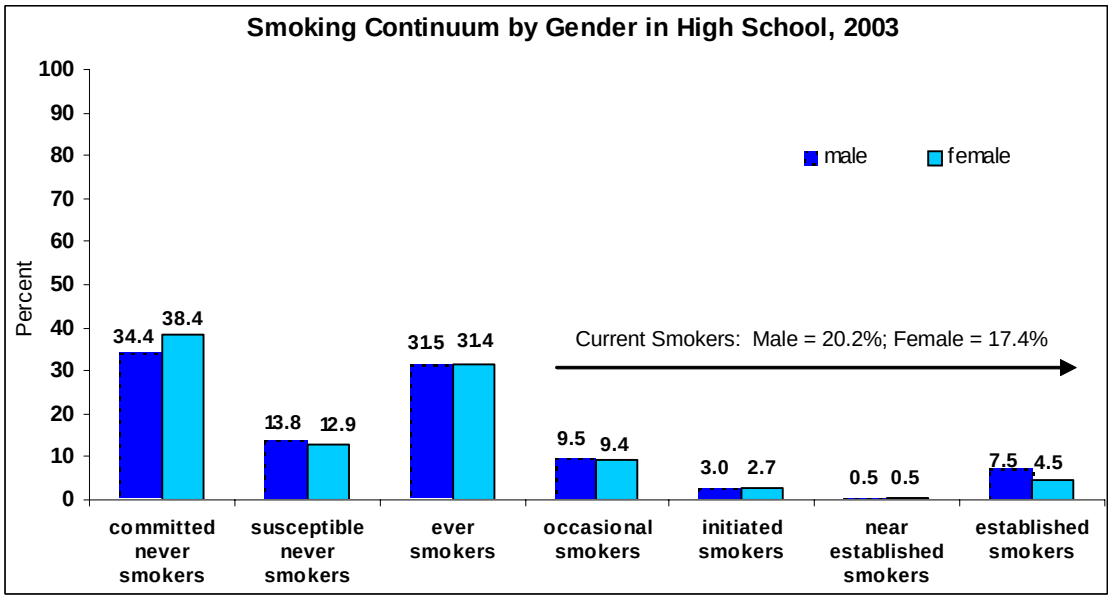


Figure 23.



3.3 Summary of Current Smokers

Figure 24.

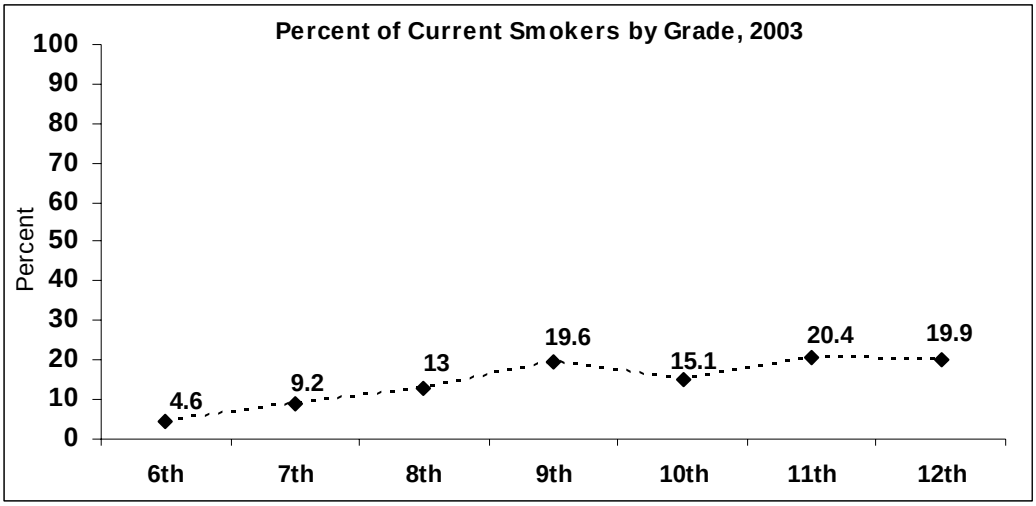


Figure 24 presents the percent of current smokers by grade, ranging from those who smoked only puffs to those who smoked every day during the 30 days prior to the survey. At every grade level (with the exception of 10th grade), the percent of students who were current smokers increased, so that in grade 12, made up mostly of 17 and 18 year olds, the percent of current smokers was nearly 20%. This rate is similar to the 2002 Arizona adult smoking rate of 20.1%, but lower than the prevalence rate of 29% for 18-24 year olds since it does not include high school drop outs and other high risk youth (2002 Arizona Adult Tobacco Survey).

Figure 25.

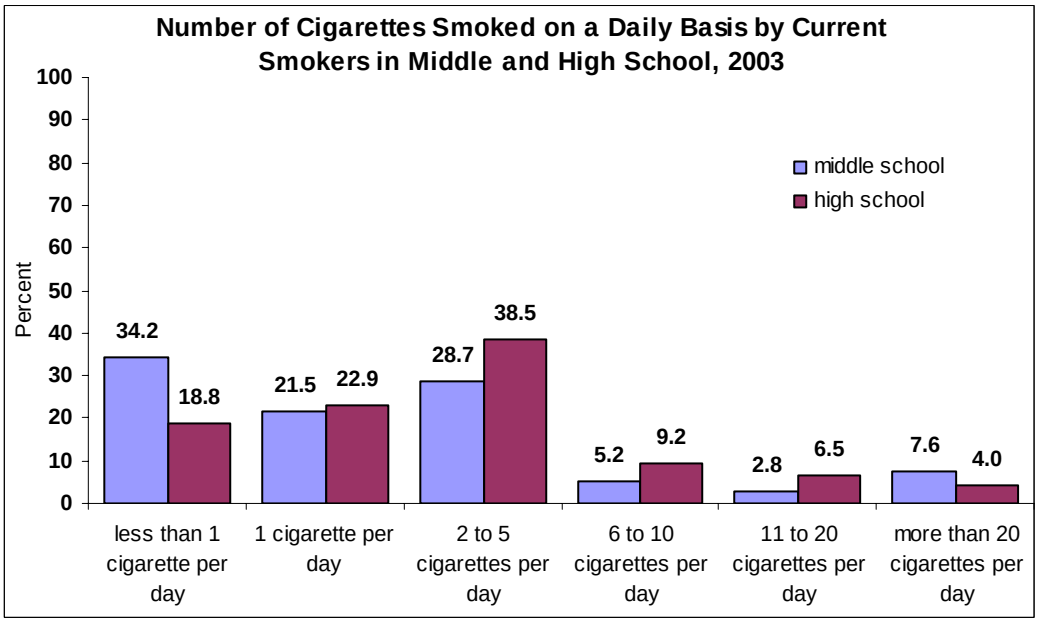


Figure 25 summarizes the number of cigarettes smoked by current smokers on a daily basis. In middle school, over half the current smokers (56%) reported smoking one cigarette or less per day on the days they smoked, and 27% reported smoking 2-5 cigarettes per day on the days they smoked. In high school, over 40% reported smoking one cigarette or less per day on the days they smoked. Close to 40% smoked 2 to 5 cigarettes on the days they smoked, and around 20% smoked more than 6 cigarettes per day. Among current smokers approximately 8% in middle school and 4% in high school smoked more than a pack a day on the days they smoked.

For an estimated number of current smokers by grade based on 2003 school enrollments, see Appendix Table A14 on page 74.

Percent of Current Smokers by Ethnicity

Figure 26.

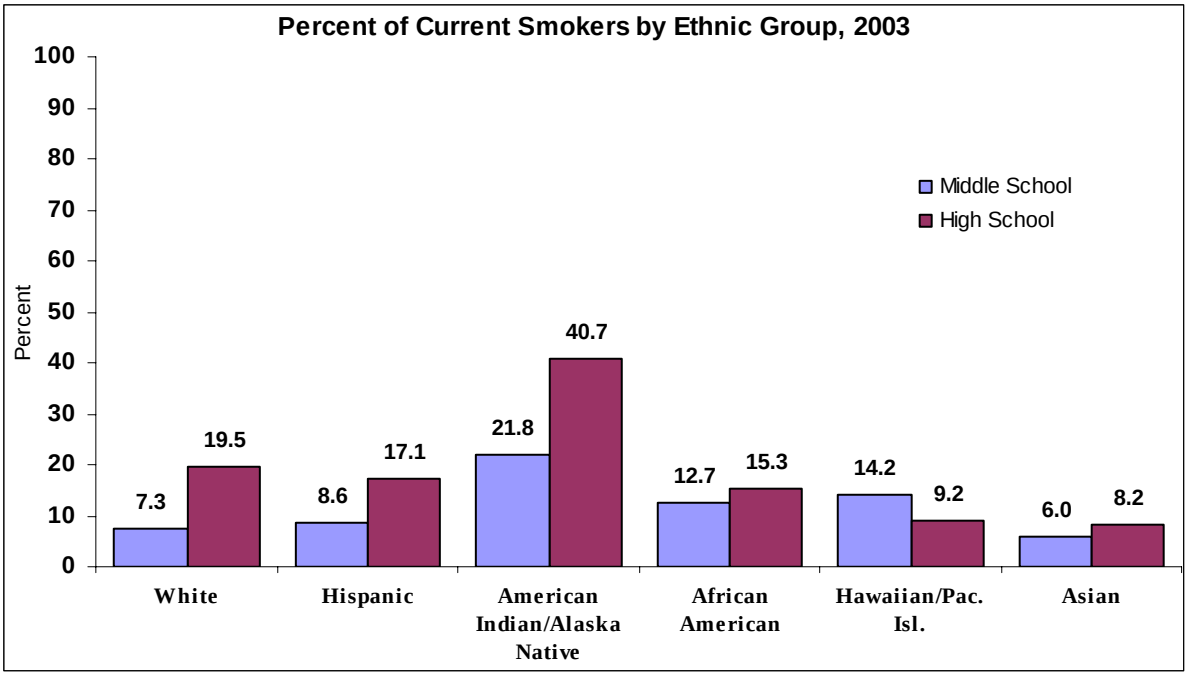


Figure 26 summarizes the percent of current smokers by ethnicity. The percent of American Indian students in middle and high school who reported smoking during the 30 days prior to the survey was substantially higher than for any other ethnic group (22% in middle school and 41% in high school). As stated earlier, the questions asked on the YTS did not permit us to ascertain if or how much of their reported smoking was attributable to tradition uses of tobacco. Therefore, the high percentages for this ethnic group must be interpreted with caution.

In middle school, current smoking rates were lowest among Asians (6%) and whites (7%), and highest (after American Indians) among Hawaiian/Pacific Islanders (14%) and African Americans (13%).

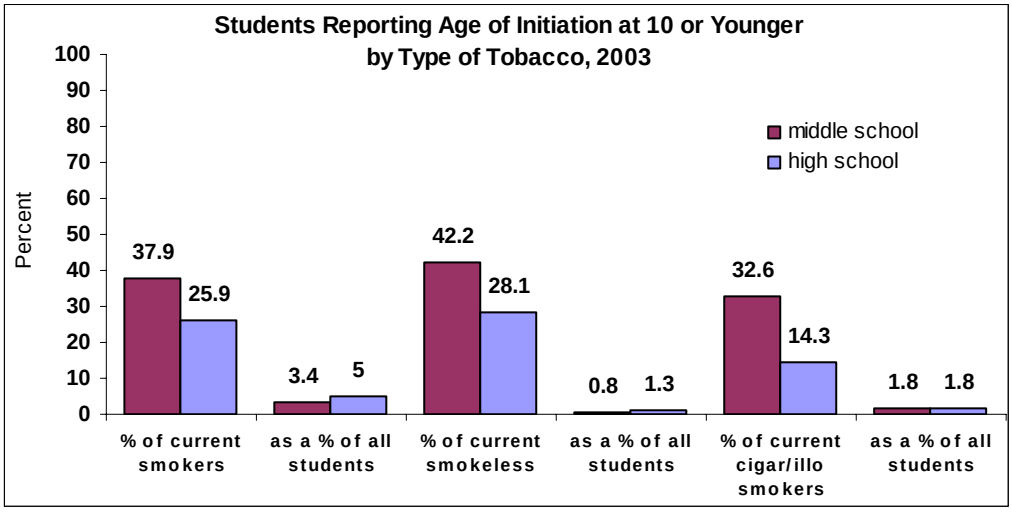
In high school, current smoking rates were lowest for Asian (8%) and Hawaiian/Pacific Islanders (9%) and highest (after American Indians) among white (19.5%) and Hispanics (17%).

Note of caution: All prevalence rates reported for Asians and Hawaiian/Pacific Islanders much be interpreted with caution due to small sample size. Table A9 (p. 73) in the Appendix presents the unweighted counts of students who participated in the survey by ethnic group.

3.4 Age of Initiation

Tobacco control specialists worry that young people may be initiating tobacco use at younger ages. Investigating that issue accurately requires looking at age of initiation over time. However, with a single year of data, we can conduct a snapshot assessment of early initiation by comparing the percentage of students in middle and high school, and the percentage by grade, who report initiating use at age 10 or younger. Students were asked at what age they first smoked a whole cigarette; first used chewing tobacco, snuff, or dip; or first smoked a cigar, little cigar or cigarillo. The response categories included never, age 8 or younger, 9 or 10, 11 or 12, continuing up to 17 years or older. We chose age 10 or younger as the cut off for early initiation to be able to compare the responses of middle and high school students.

Figure 27.

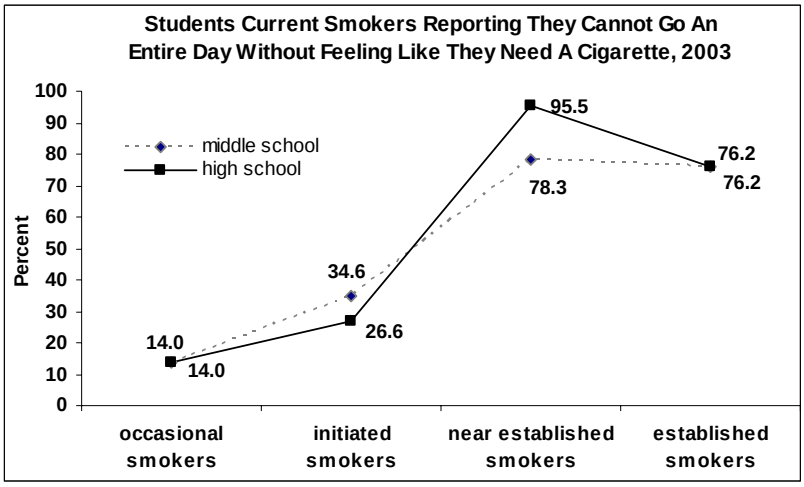


The percent who reported initiating tobacco use at age10 or younger (for each type of tobacco) was relatively low when taken as a percent of the total number of students. For example, 5% of high school students said they smoked their first cigarettes at age 10 or younger and less than 2% tried smokeless tobacco or cigar/illos before age 10 (Figure 27). When taken as a percentage of current tobacco users, however, the percentages become more troublesome. More than one out of three middle school current smokers (38%) and current smokeless tobacco users (42%) reported initiating tobacco use at age 10 or younger. Among high school current tobacco users the ratio was lower, with fewer than one out of four, overall, reporting "early" initiation.

3.5 Urge to Smoke and Quitting Smoking

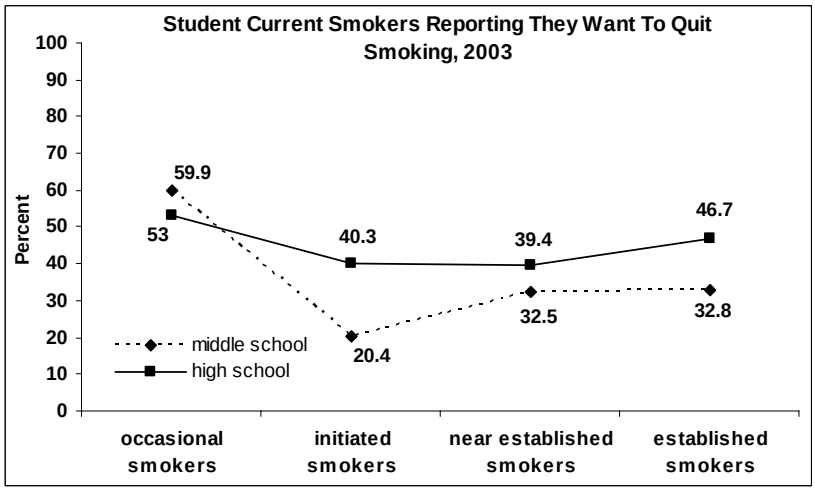
Students were asked how long they could go without smoking before they felt like they needed a cigarette. They were also asked about their attitudes about quitting, their desire to quit, their past quit attempts, and if they participated in programs to help them quit in the past. Their reports on the urge to smoke varied depending on where they fell on the smoking continuum. Getting a clear picture of their desire and ability to quit is difficult to arrive at due to the counterweight of the social desirability and other social influences around smoking that pull them in the opposite direction.

Figure 28.



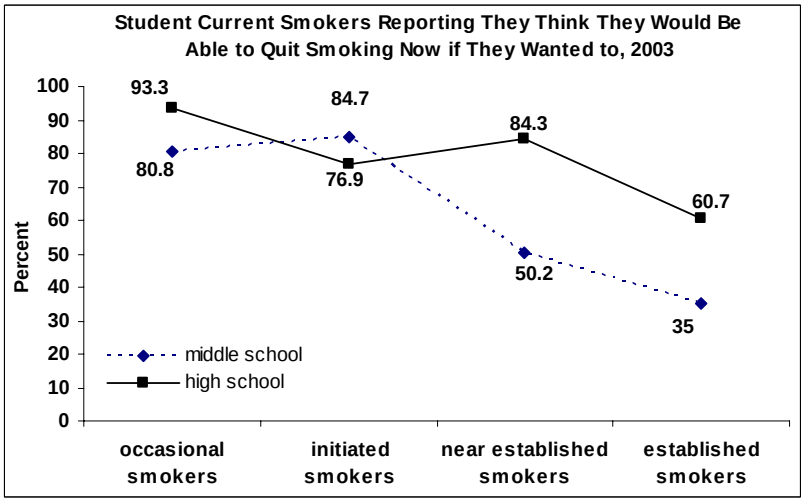
Reports of not being able to go an entire day without feeling like they needed a cigarette increased sharply along the smoking continuum (Figure 28). More than three quarters of the near established and established smokers in middle and high school reported they could not go an entire day without a cigarette. The occasional and initiated smokers, who did not smoke on a daily basis, reported less overall urgency to smoke.

Figure 29.



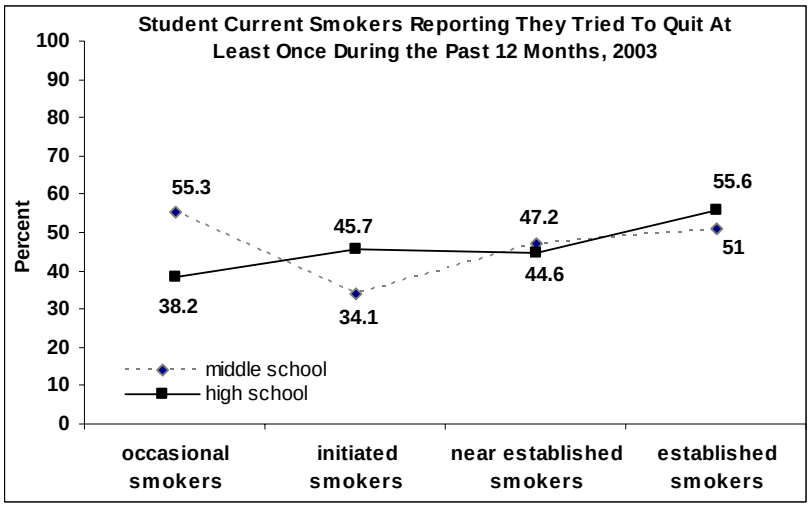
Students were asked if they wanted to "stop smoking cigarettes." Overall, similar proportions of middle (50%) and high school (48%) current smokers reported wanting to quit. The desire to quit was expressed more evenly across the smoking continuum among high school current smokers than among middle school current smokers (Figure 29). The more established smokers in middle school had lower reports of wanting to quit. But reporting a desire to quit is quite different from actually attempting to quit or seeking services to quit as we will see in the following figures.

Figure 30.



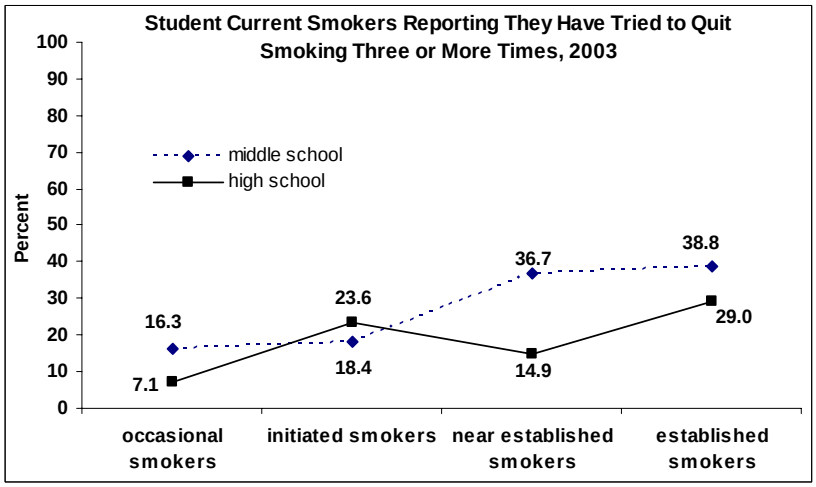
Current smokers in middle and high school generally reported an optimistic view about their ability to quit "now" if they wanted to When students were asked if they thought they could quit smoking now if they wanted to, most of the current smokers responded positively (despite multiple quit attempts by many of them, see below). Seventy-nine percent of high school smokers and 74% of middle school smokers reported thinking they would be able to quit now if they wanted to. One interesting finding is that near established and established smokers in high school had had a higher perception of their ability to quit now than their counterparts in middle school.

Figure 31.



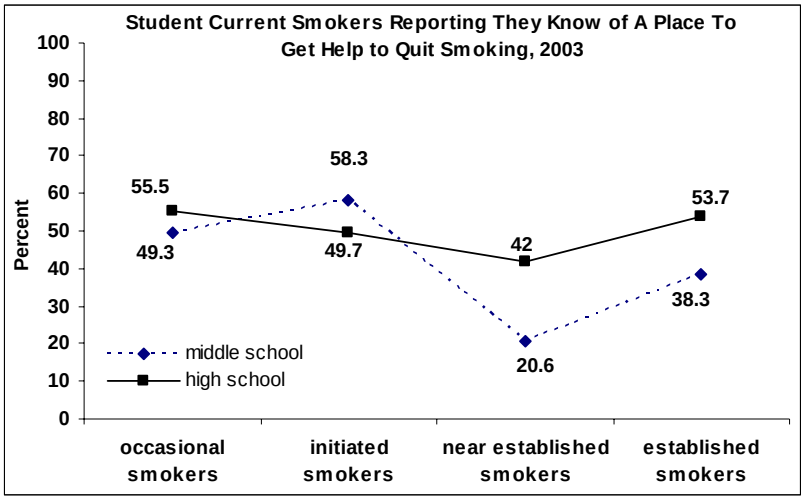
The percentage of smokers across the smoking continuum who reported a quit attempt during the past 12 months was similar to the percentage who reported a desire to quit, 52% in middle school and 45% in high school. More middle school occasional smokers reported a quit attempt than high school occasional smokers. Otherwise, reports of quit attempts were fairly even across the smoking continuum.

Figure 32.



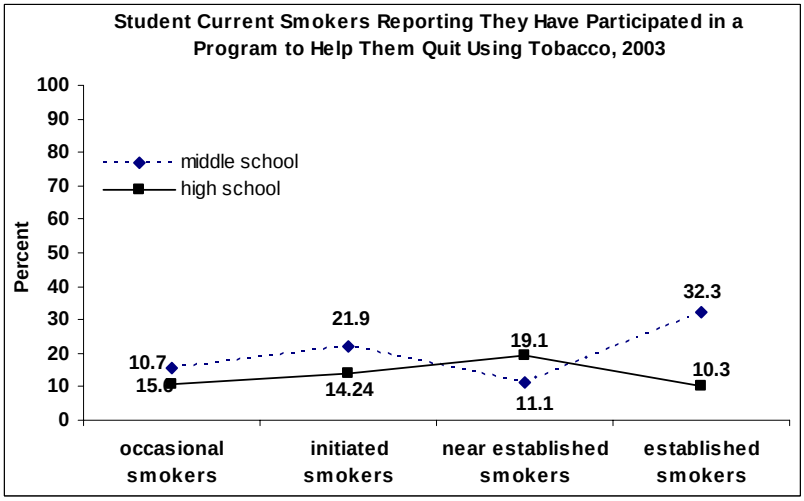
Multiple quit attempts were reported by around one in five current smokers. A slightly higher percentage of middle school smokers (20%) than high school smokers (17%) reported multiple quit attempts. The more established middle school smokers in particular reported more multiple quit attempts than their high school counterparts.

Figure 33.



Approximately half of the current smokers in middle and high school reported they knew where to go to get help quitting. More of the established smokers in high school than in middle school knew of a place to get help (Figure 33).

Figure 34.



The number of smokers who had used a service to help them quit using tobacco was low. Overall, 19% of middle school current smokers reported that they participated in such a program compared to 11% in high school. The highest reports of participating in such a program came from middle school established smokers (32%, Figure 34). This finding, coupled with the high reports of smokers believing they would be able to quit now if they wanted to, leaves little room to think that current smokers would seek services to help them quit – at least the services that exist currently. As one might expect, quitting smoking is not a priority for most current smokers in this age group. And unfortunately, model programs for effective cessation services for youth reported in the literature are sparse.

4. Knowledge, Attitudes and Beliefs about Tobacco

4.1 Perceptions of Benefits of Smoking

Social Desirability of Smoking

The social desirability of smoking continues to be strong for many young people in middle and high school in Arizona. Overall, middle school students reported the highest levels of perceived social benefits associated with smoking. About 20% of middle school students and 16% of high school students agreed that young people who smoke have more friends. There was a slightly weaker perception that smoking makes young people look cool or fit in, with 13% of middle schools students and 8% of high school students agreeing with that statement.

Comparing the responses of groups along the smoking continuum, very few committed never smokers perceived smoking as a pathway to having more friends and looking cool or fitting in (Figure 35 and 36). In strong contrast, many of the middle school students who were smoking the most stand out as having much stronger perceptions about have more friends (61.3% of established smokers) and looking cool or fitting in (44.7% of near-established and 45.2% of established smokers). In high school, the established smokers show much higher positive responses about having more friends (61%), but not about looking cool or fitting in (22%). The particular vulnerability of middle school students to believe that smoking makes them look cool or fit in and have more friends continues to be problematic. Effective prevention education and counter-marketing campaigns that contribute to changing social norms for these youth are still warranted.

Figure 35.

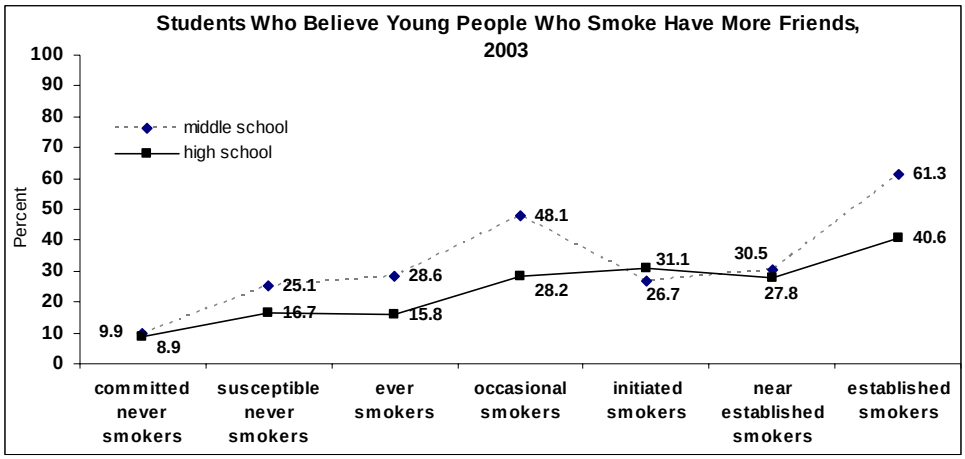
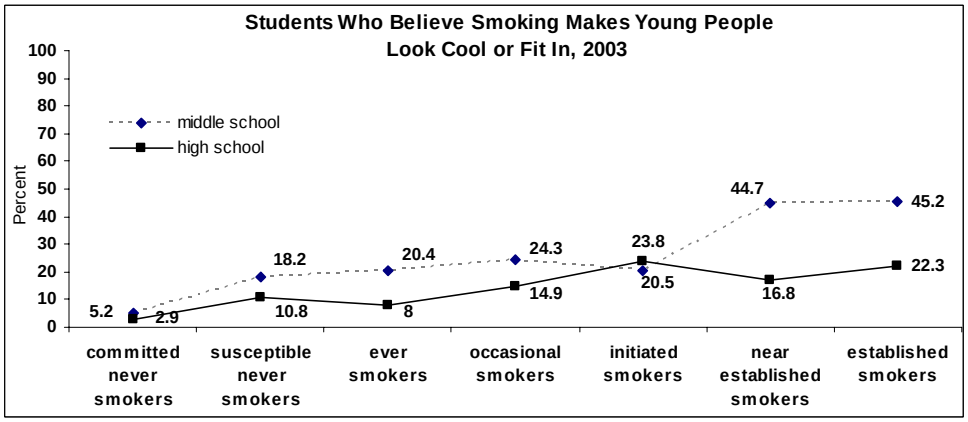


Figure 36.



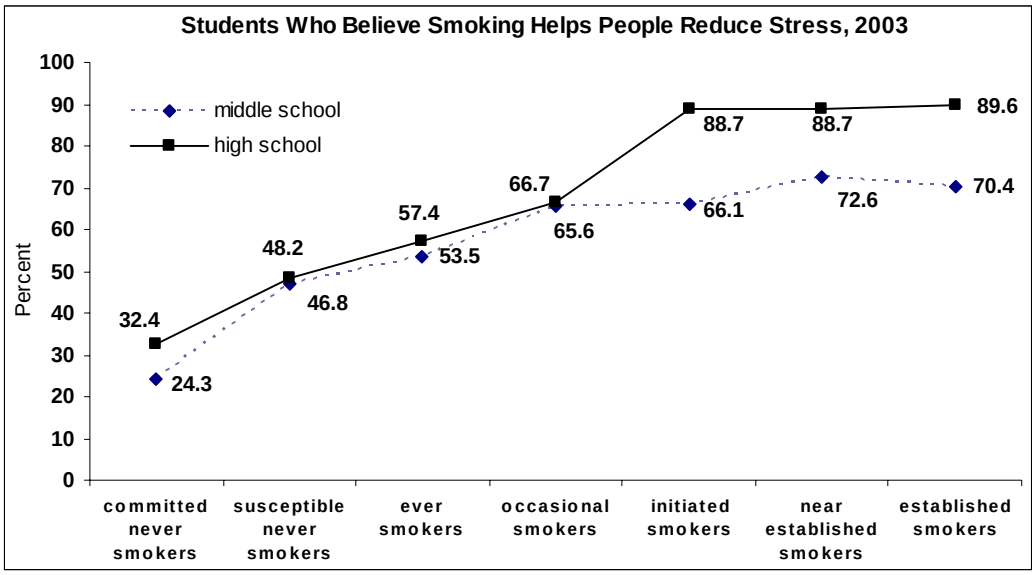
Perceived Benefits of Smoking with Regard to Stress Reduction and Weight Control

Reducing Stress

There is a strong perception among students that smoking helps people reduce stress. Including non-smokers, 51% of high school students and 38% of middle school students agreed that smoking helps people reduce stress. Over 88% of the seriously engaged smokers in high school (initiated, near-established and established), reported that smoking helps reduce stress (Figure 37). At the middle school level, over 65% of smokers at various stages along the continuum reported so as well. In this case, high school students overtook middle school students.

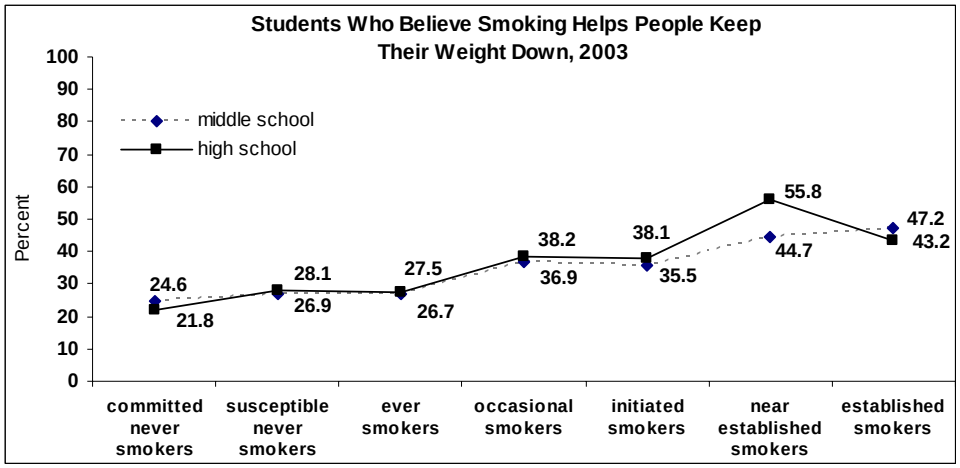
The fact that so many of the high school students agreed with this statement may be an indication that stress is a major preoccupation in their lives. Stress, even more than having more friends or fitting in and looking cool, may be a trigger for taking up or persisting in smoking. This finding is extremely worrisome, since any type of stressful experience may prompt a susceptible young person to turn to smoking for relief. In addition, if they already smoke and attempted to quit, the additional stress provoked by the quit attempt may steer them away from attempting to quit again in the future. This may help explain the relatively low reports of the desire to quit and low levels of multiple quit attempts.

Figure 37.



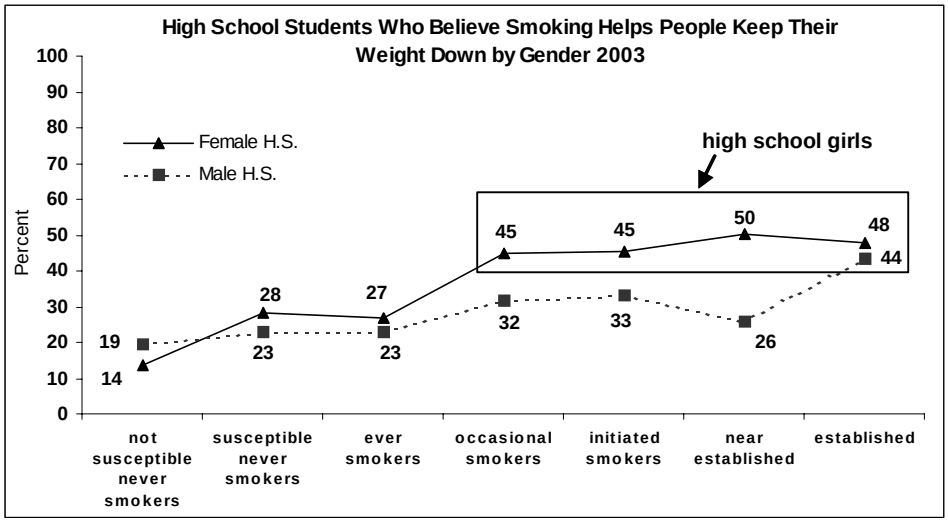
Keeping Weight Down

Figure 38.



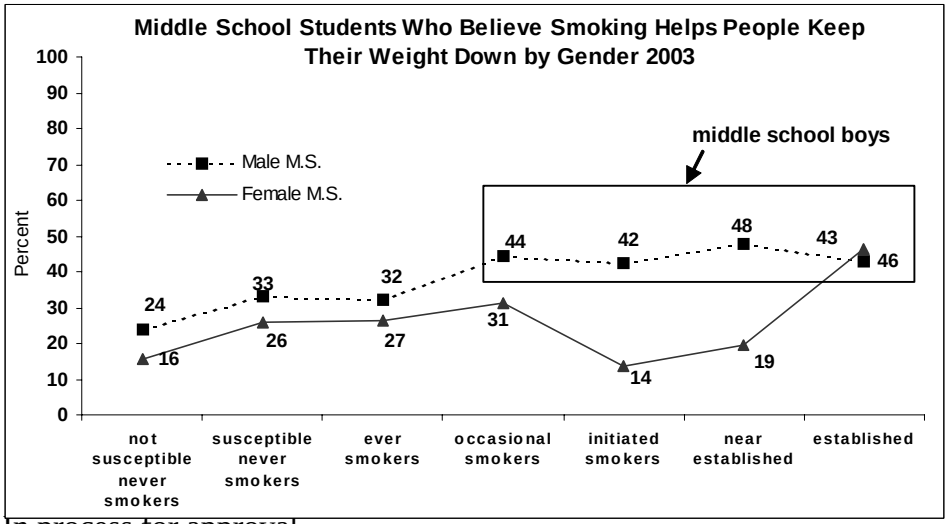
Among these students, keeping weight down is not perceived to be as important a benefit of smoking as reducing stress. One in five students in middle and high school agreed that smoking helps people keep their weight down. The perception increases along the smoking continuum, where the belief among established smokers was nearly twice as high as it was for committed never smokers for both middle and high school students.

Figure 39.



Gender issues are inevitably raised when discussing smoking and weight control. Do more girls than boys perceive that smoking is helpful for keeping down weight? Among all student groups, high school girls who were committed never smokers (14%) were the least likely to report that smoking helps people keep their weight down (Figure 39). The results were over three times higher among female established smokers (48%) but the male established smokers reported similar rates (44%).

Figure 40.



Comparing attitudes across middle and high school current smokers, all middle school boys who were current smokers reported perceptions of smoking and weight control similar to female high school established smokers (Figure 40). Only middle school girls who were established smokers reported similar rates (46%). So, the perception of smoking keeping weight down is not limited to girls.

4.2 Perceptions of the Dangers of Smoking

The vast majority of students in Arizona report that tobacco, including smokeless tobacco, is addictive (92% in high school and 91% in middle school). A high percentage of students who smoke also report that tobacco is addictive. However, there is a slight downward trend along the smoking continuum in the percent of students reporting that tobacco is addictive among the more persistent smokers, especially in middle school (Figures 41). Patterns are similar regarding smokeless tobacco (Figure 42). However, among the students who are smoking, the level of awareness or knowledge about the risk of addiction to tobacco does not appear to be a protective factor. Knowing that tobacco is addictive does not help some young people stay away from it. (*Note: in the following graphs, the small number of near established smokers results in response patterns that stand out in strong contrast to those of other groups*).

Figure 41.

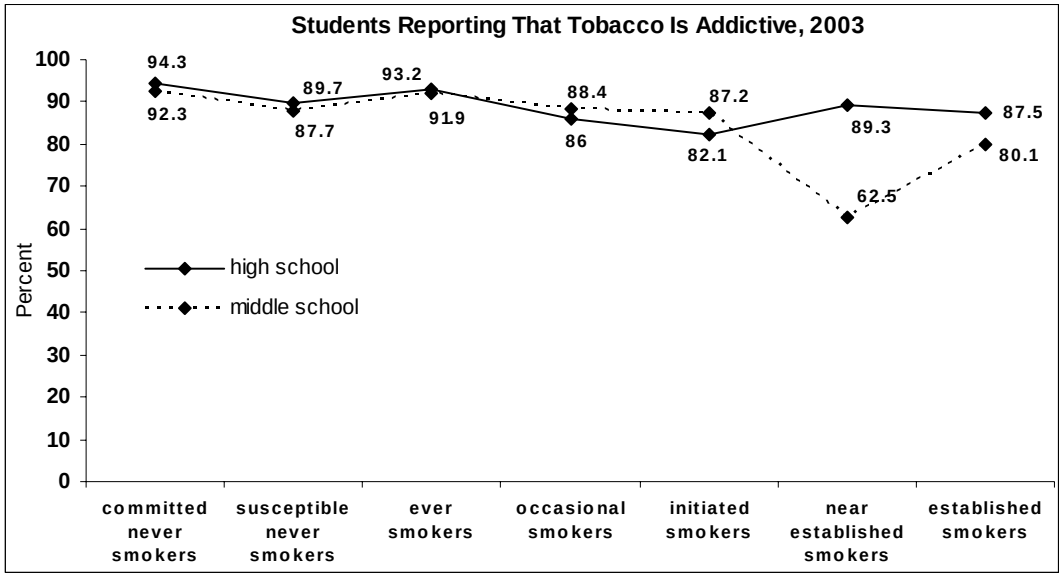
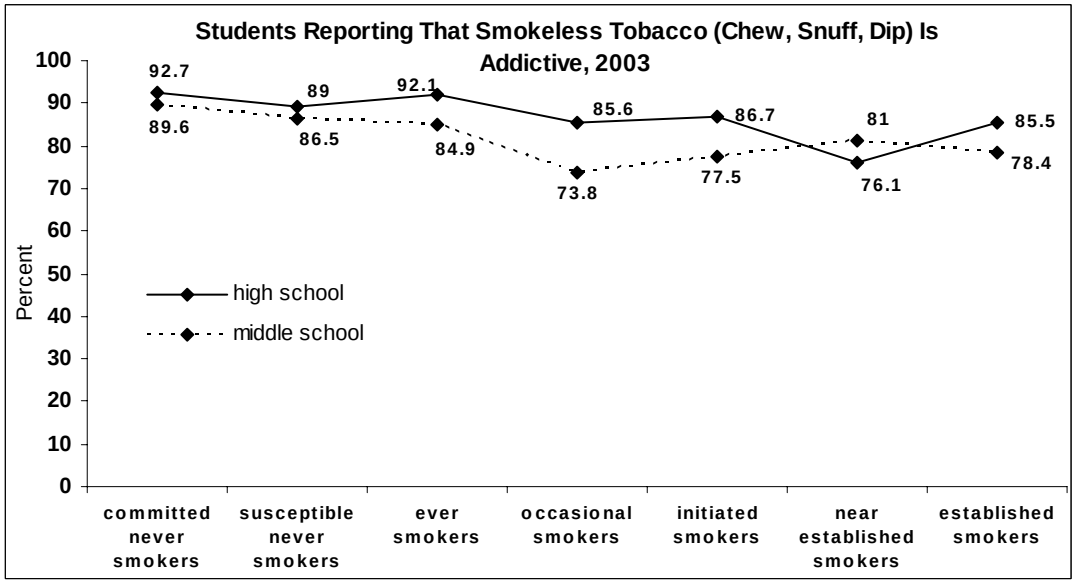
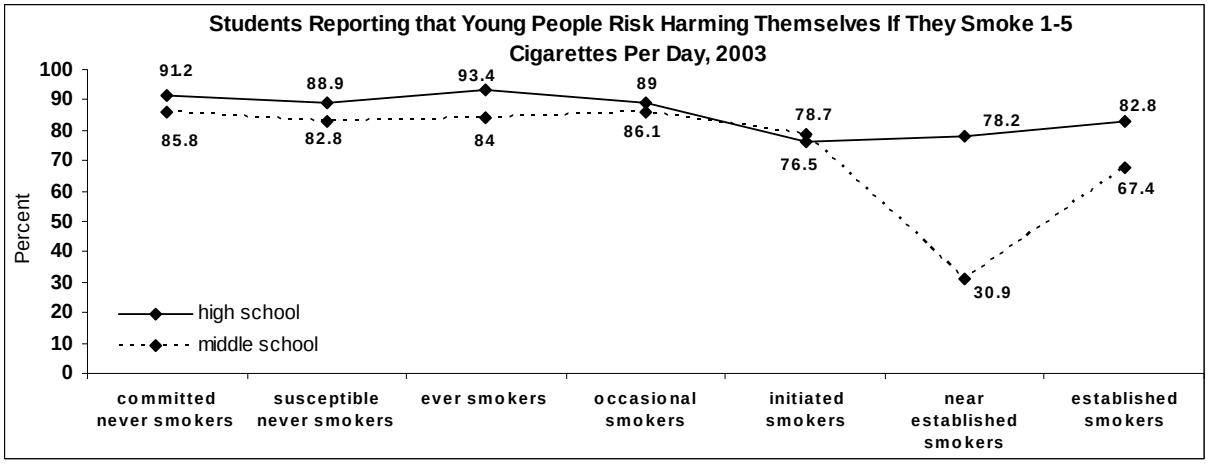


Figure 42.



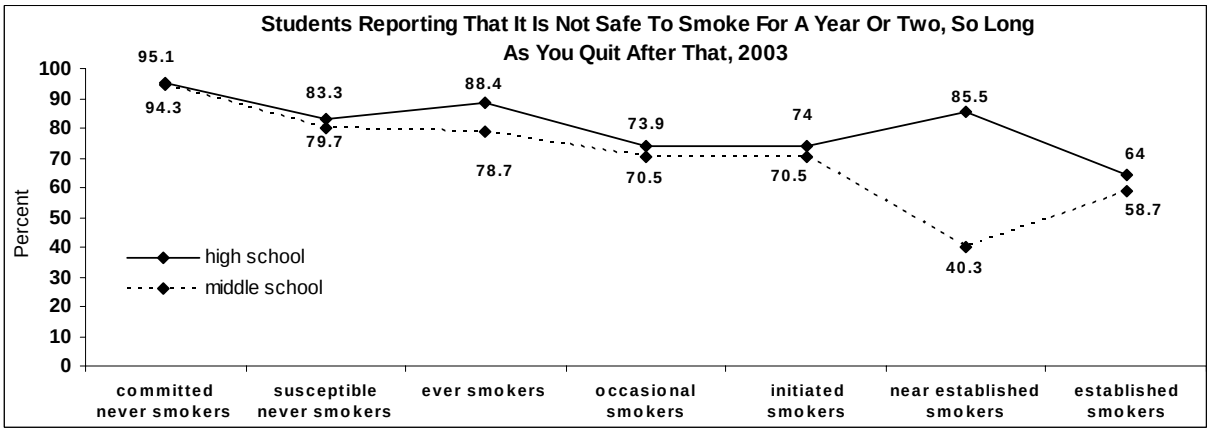
Most students (over 84%) also reported that smoking a few cigarettes per day and smoking for a year or two were harmful. The perceived harm of smoking a few cigarettes per day was slightly higher among high school than middle school smokers, and was lowest among the most persistent smokers in middle school (Figure 43).

Figure 43.



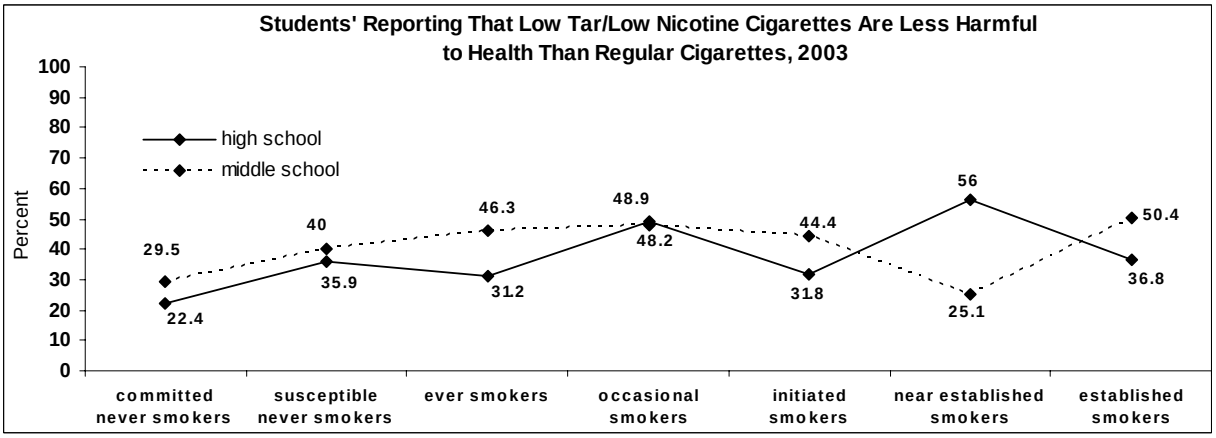
The majority of high school and middle school students also agreed that it is not safe to smoke for a year or two so long as you quit after that. However, the trend line drops from around 94% of committed never smokers to around 60% of established smokers (Figure 44). Middle school smokers consistently reported lower rates than high school smokers about the danger of smoking for a year or two.

Figure 44.



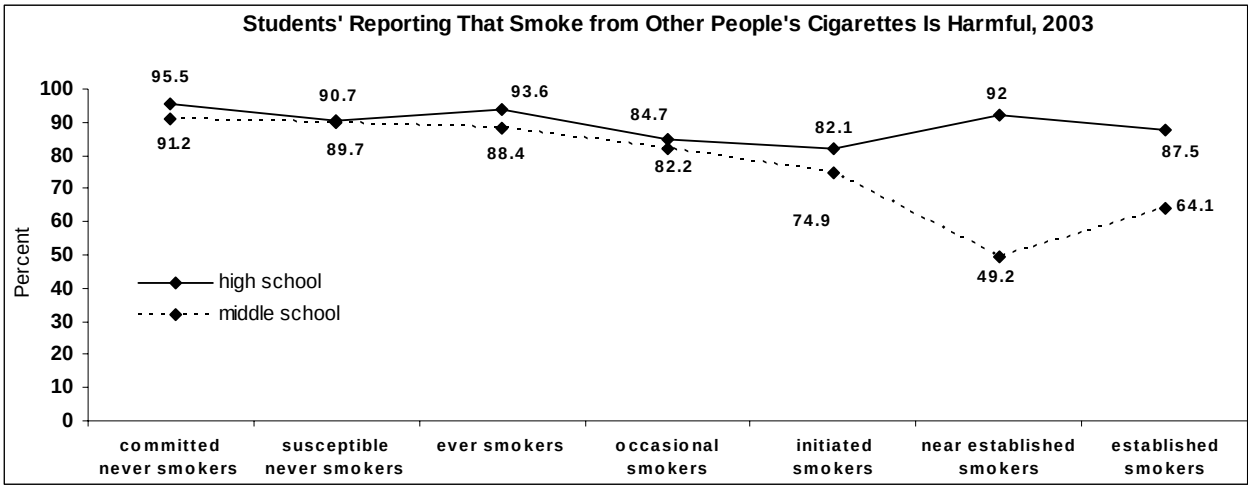
The dangers of low tar/low nicotine cigarettes are not perceived as widely as other dangers by many students. Thirty-six percent of middle school students and 31% of high school students report that low tar/low nicotine cigarettes are less harmful to health than regular cigarettes. This perception wavered more among high school smokers than middle school smokers (Figure 45).

Figure 45.



The majority of students reported a high level of awareness of the harm of secondhand smoke (90% of middle school students and 92% of high school students). Looking across the smoking continuum, middle school smokers in the initiated, near-established and established categories had the lowest reports (Figure 46).

Figure 46.



Looking at all the charts assembled above on the perception of the dangers of tobacco, it appears that, overall, high school students report a slightly higher level of awareness of the dangers than middle school students. But the smoking rates, including experimentation, occasional use, and habitual use, are all higher at the high school level.

5. Influence of Family, Friends and the Media

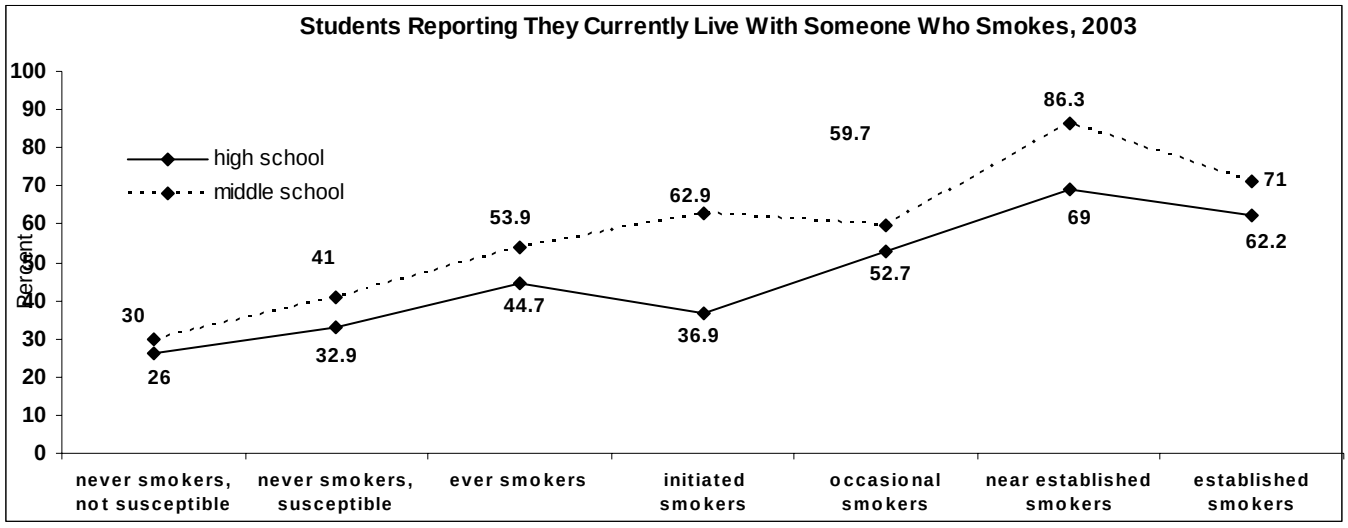
5.1 Influence of Family

The family environment is known to have critical influence on smoking behaviors of youth. In this survey, over one in three students (38%) reported living with someone who smokes (39.9% of middle school students and 36.8% of high school students). Not only are these students likely to be exposed to secondhand smoke at home, but the sanctioning of adult smoking in the family unit provides a social norm for youth that makes smoking acceptable or normal. For many youth, smoking is associated with adulthood and independence. This seems to be especially true for preteens and young teens who may perceive smoking as a way to signal independence and autonomy from parental or adult authority.

The influence of smoking in the family on youth prevalence rates is apparent in Arizona's middle school students: 14% of middle school students living with a smoker reported smoking during the past 30 days compared to 5% not living with a smoker. That is, middle schools students living with a smoker were nearly three times as likely to have smoked in the past 30 days as their counterparts not living with a smoker. Among the high school students, the influence of family is strong, but a number of students who didn't live with a smoker reported smoking as well: 23.5% of high school students living with a smoker were current smokers compared to 14.6% who didn't live with a smoker. That is, the ratio of high school current smokers living with a smoker versus not living with a smoker was less than 2 to 1. This illustrates that family norms around tobacco are important, but it is not the only factor that influences teens to take up or persist in smoking.

The relationship between living with a smoker and youth smoking is quite pronounced when we look at students along the smoking continuum. Never smokers who are not susceptible to smoking are more likely not to live with a smoker. Students who smoke the most in quantity and frequency report the highest incidence of living with a smoker in both middle and high school. Established smokers report a rate that is twice as high as that of committed never smokers (Figure 47).

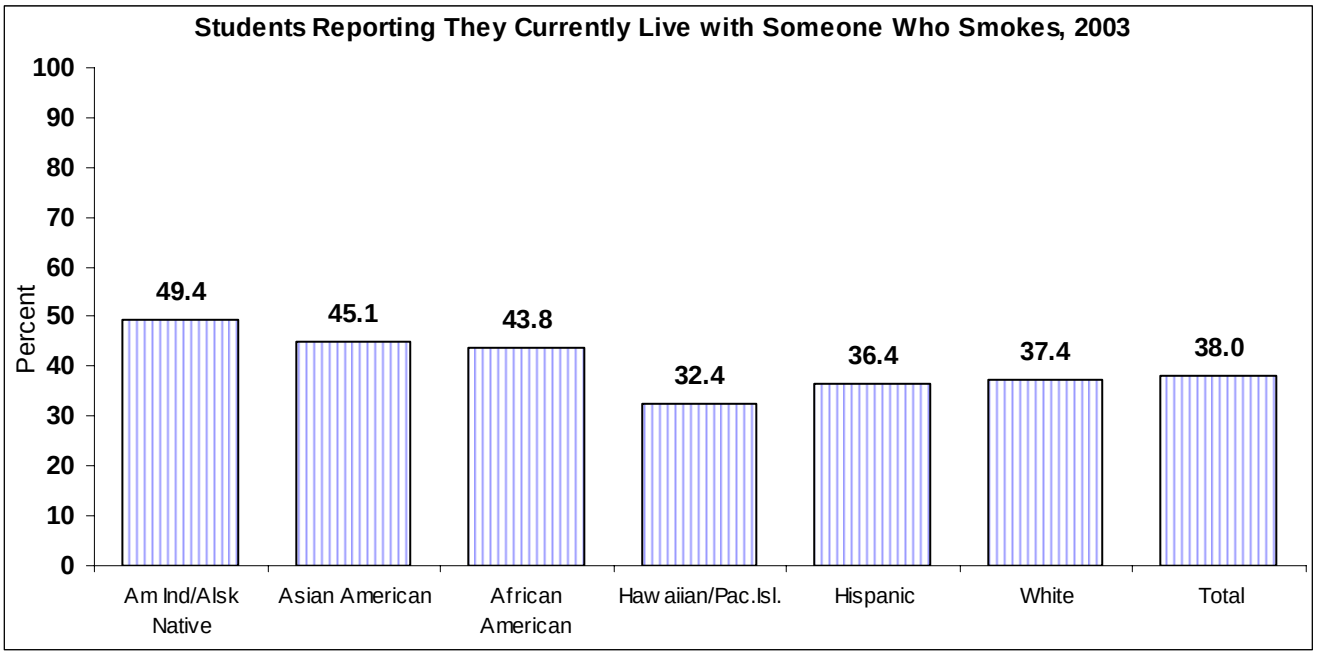
Figure 47.



Living with a Smoker by Ethnicity

Reports of smoking in the family unit vary by ethnicity. Students who are American Indians (49%), Asian Americans (45%), and African Americans (44%) reported the highest levels of living with someone who smokes. The high rates reported by American Indian students may include living with someone who engages in traditional or ceremonial uses of tobacco, as stated earlier, but no questions were included about that subject on the survey. The Asian American percentage of 45% is somewhat unexpected because Asian American students reported among the lowest current smoking rates in middle and high school (see Figure 12). Native Hawaiian/Pacific Island (32%) and Hispanic (36%) students reported the lowest levels of living with someone who smokes.

Figure 48.



One question addressing family influence asked whether parents or guardians had discussed the dangers of tobacco. Overall, around two thirds of students reported that parents or guardians had done so: 71% of middle school students and 64% of high school students responded positively. When we compared the responses of students who lived with a smoker and those who did not, the answers were not dramatically different: 68% of middle school students and 60% of high school students living with a smoker heard from their parents about the dangers of tobacco compared to 73% of middle school and 67% of high school students not living with a smoker - a difference of 6% or 7%.

Looking at students along the smoking continuum (Figures 49 and 50), students not living with a smoker who were near-established and established smokers reported the highest rates of hearing about the dangers of tobacco from their parents (from 78% to 100%), suggesting that these parents may have been aware of their child's current tobacco use. Near-established smokers living with a smoker also report high rates (88% and 92%). Established smokers living with a smoker, however, reported among the lowest rates of hearing about the dangers of tobacco from their parents in both middle (51%) and high school (62%).

Figure 49.

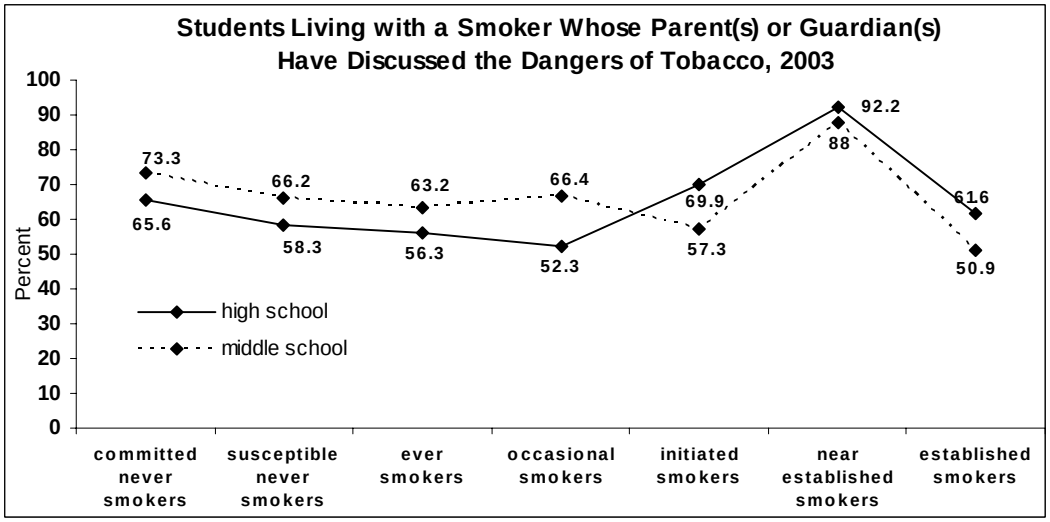
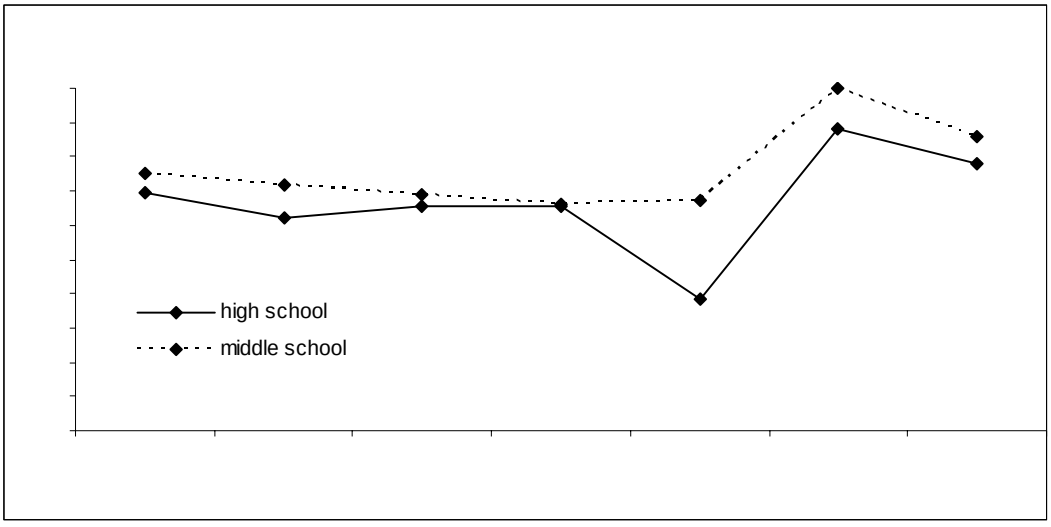


Figure 50.

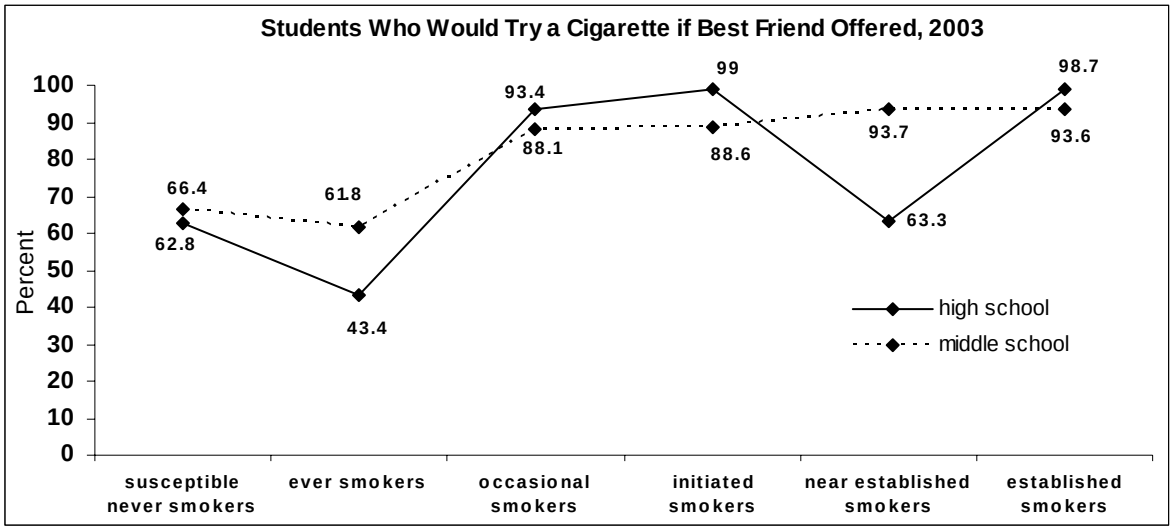


5.2 Influence of Friends

The influence of friends is thought to be one of the main triggers for young people to try smoking and to continue smoking if they do try it. When asked if they would smoke a cigarette if one of their best friends offered, 16% of middle school and 21% of high school students said they would, or about 1 in 6 middle school students and 1 in 5 high school students.

The acceptance of an offer by a friend to smoke varies a good deal by smoking status (Figure 51). By definition, all committed never smokers replied they would not try a cigarette if offered (so they are not included in the figure below). Around two-thirds of susceptible never smokers said they would try a cigarette if offered one. More ever smokers in middle school (62%) replied yes to the question than ever smokers in high school (43%). This may indicate that some ever smokers in high school who had tried smoking weren't interested in pursuing it further. In contrast, the higher response rate of ever smokers in middle school indicates that their continued interest in experimentation is likely to lead to more of them becoming current smokers. Among high school students, occasional, initiated and established smokers were highly likely to smoke a cigarette if a close friend offered (over 90% said they would)[9]. The responses from middle school smokers were slightly lower, but not much. What is evident from these data is that for most of the *current* smokers, having a cigarette with a friend is an attractive proposition.

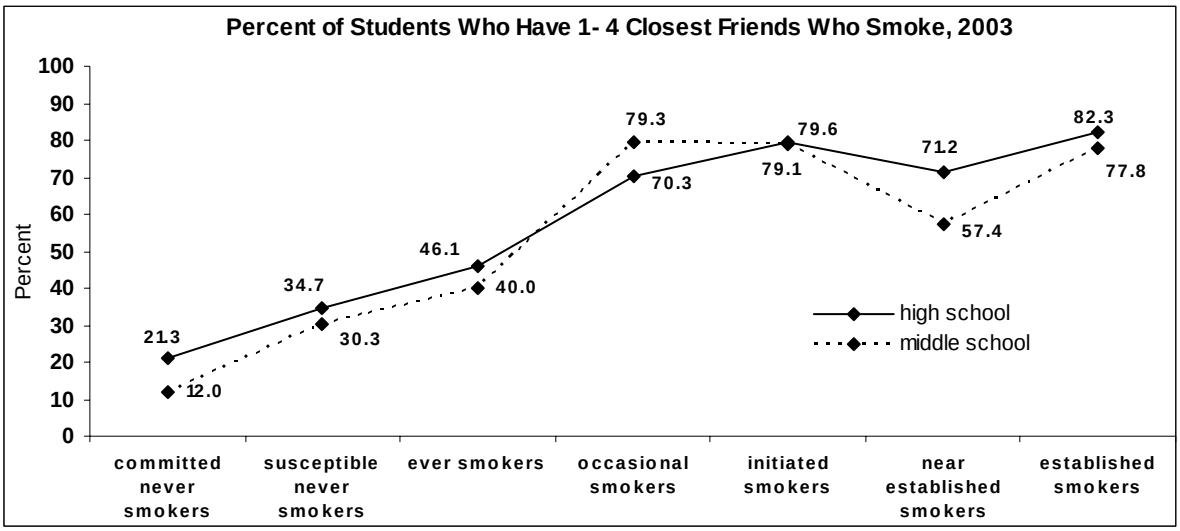
Figure 51.



[9] There is a very small number of near established smokers, so their responses fluctuate considerably.

Students were also asked if one to four of their four closest friends smoked (Figure 52). There is a strong trend along the smoking continuum showing that the students who smoked the most had the highest reports of having close friends who smoke. It is not surprising that committed never smokers reported having fewer close friends who smoked (12% in middle school and 21% in high school), while the established smokers had the most (78% in middle school and 82% in high school). For young people who persist in smoking, there does appear to be a strong association between smoking and friendship. Those who are interested in smoking tend to have friends who smoke. Or, conversely, those who are not interesting in smoking tend to have friends who are not interested in smoking either.

Figure 52.



5.3 Influence of the Media

The American Legacy Foundation, Campaign for Tobacco Free Kids, and other organizations have devoted considerable energy and resources to gain a better understanding of the impact of the media, especially tobacco company advertising campaigns, on young people taking up tobacco and on their smoking behaviors. The questions related to media on the YTS do not provide comparable scope or depth of information on this subject, but they do give us an indication of the relationship between students viewing smoking in the media, using articles with tobacco branding, and smoking.

In addition to being the target of direct marketing on the part of tobacco companies, youth are exposed to adult smoking in the mass media, especially on television and in the movies. Viewing admired television, sports, and movie stars using tobacco is believed to present a positive and influential role model to youth. In this survey, students were asked how often they saw actors and athletes using tobacco on television and/or in the movies when they watched them. The majority reported seeing actors use tobacco some or most of the time: 78% of middle school students and 84% of high school students. Far fewer reported seeing athletes use tobacco some or most of the time: 26% of middle school students and 23% of high school students.

If we look at student reports of viewing actors using tobacco across the smoking continuum, we see that there is little variation from never smokers to established smokers (Figure 53). Youth who have never smoked report seeing the about the same amount of smoking some or most of the time by actors as youth who smoke nearly every day. In Figure 54, we see that there is a bit of variation in students' reports of seeing athletes using tobacco some or most of the time across the smoking continuum, but not a lot. Overall, there is not a big difference in what current smokers and non-smokers report about seeing actors, athletes and movie stars smoking in the media.

Figure 53.

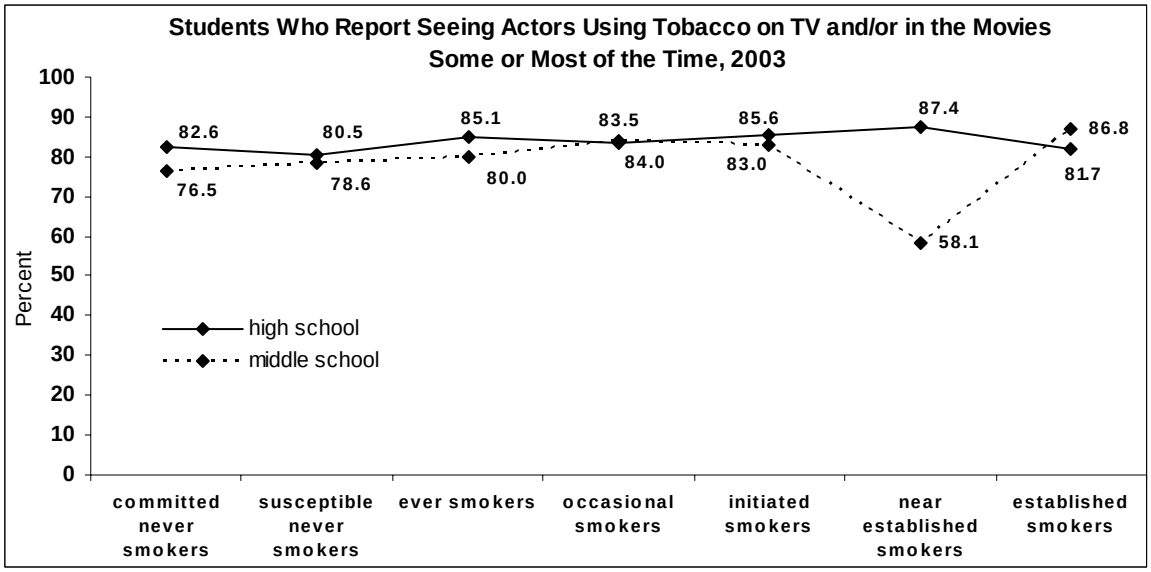
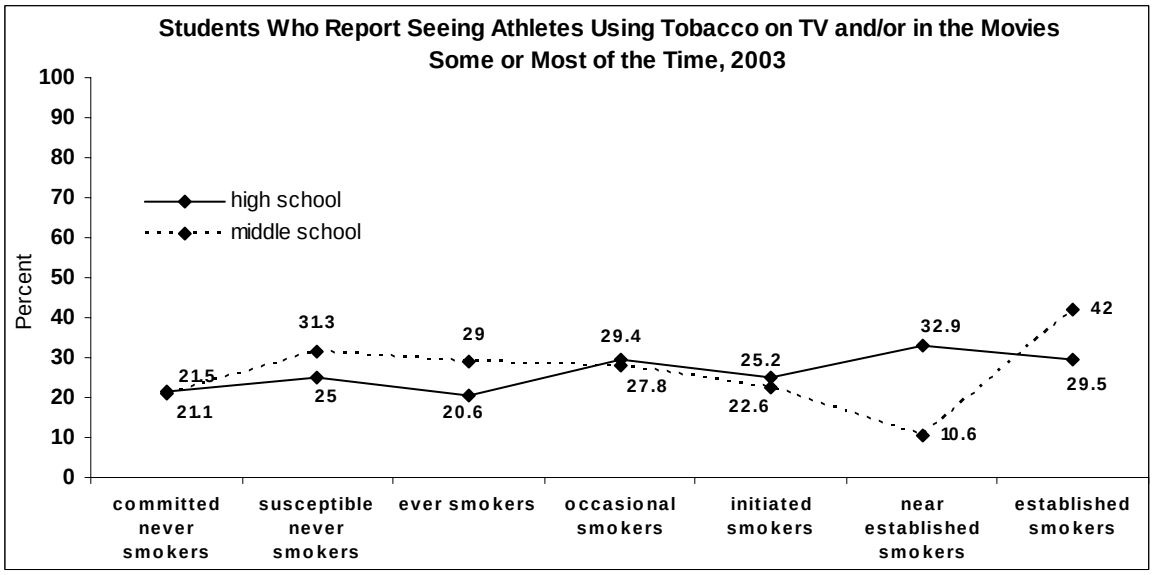
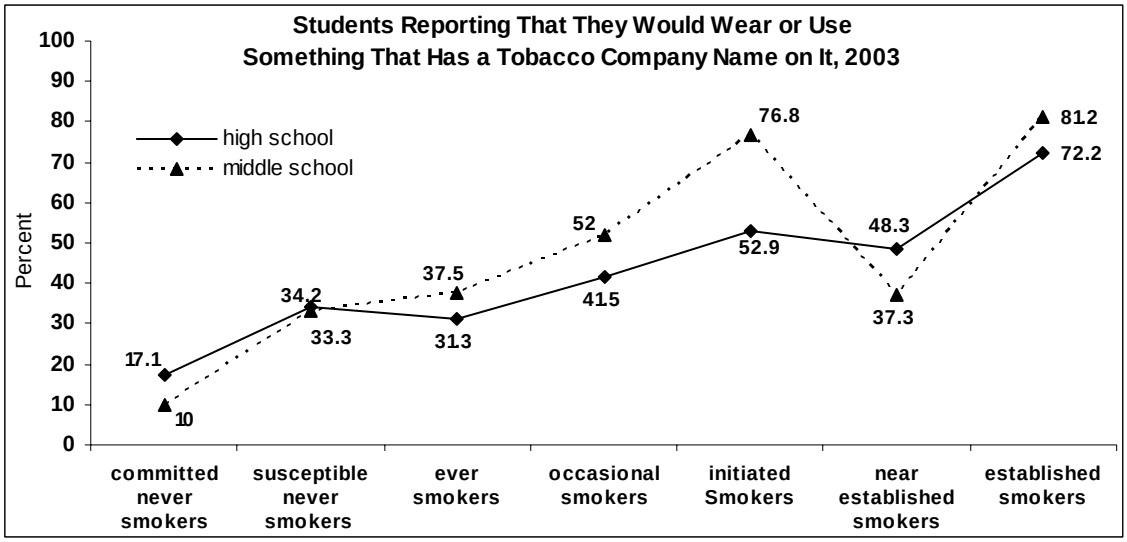


Figure 54.



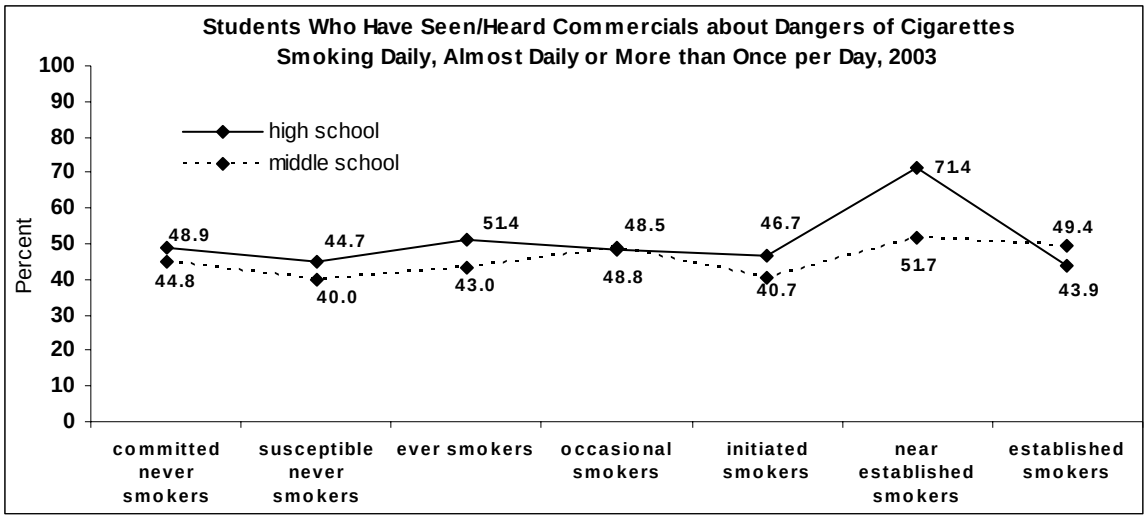
In contrast to the above, students who reported that they would wear or use something that has a tobacco company name on it increased sharply across the smoking continuum. In Figure 55, we see a steady rise across smoking categories in the percentage of students who reported they would use or wear something with a tobacco company name on it. Committed never smokers, 10% in middle school and 17% in high school, reported they were far less likely to wear or use such an article compared to the ever, occasional and frequent tobacco users. Most notably, 72% of the middle school established smokers and 81% of the high school established smokers reported willingness to use or wear such an article. Tobacco company branding appears to have more of an impact on student smokers than seeing actors or athletes use tobacco in the mass media.

Figure 55.



Youth counter-marketing campaigns attempt to mitigate the influence of tobacco company advertising. The success of the counter-marketing campaigns, such as the **truth**[sm] sponsored by the American Legacy Foundation, is measured primarily by the rates of youth awareness and recognition of campaign commercials, slogans, and messages[10]. The YTS asked students how often they had seen or heard commercials on TV, the internet, or the radio about the dangers of cigarette smoking. The percent of students who reported they saw or heard such ads on a daily or almost daily basis varied little across the smoking continuum (Figure 56). Only the near-established smokers reported higher frequencies of hearing or seeing these messages, particularly in high school. This seems to indicate that students across the smoking spectrum see or hear these ads to a similar degree. What influence those ads may have on their smoking behaviors is difficult to assess.

Figure 56.



In conclusion, viewing smoking on television or in the movies appears to have less association with youth smoking behavior than living with family members who smoke or having friends who smoke. Tobacco industry advertising appears to have high appeal with young people who smoke. Unfortunately, it is outside the scope of this survey to assess how media messages about the dangers of smoking mitigate the influence of family and friends who smoke and tobacco company advertising.

[10] Farrelly, M.C., Davis, K.C., Yarsevich, J.M., Haviland, M.L., Hersey, J.C., Girlando, M.E., Healton, C.G., "Legacy First Look Report 9, Getting to the Truth: Assessing Youth's Reactions to the truth[sm] and 'Think, Don't Smoke' Tobacco Countermarketing Campaigns", American Legacy Foundation, June, 2002.

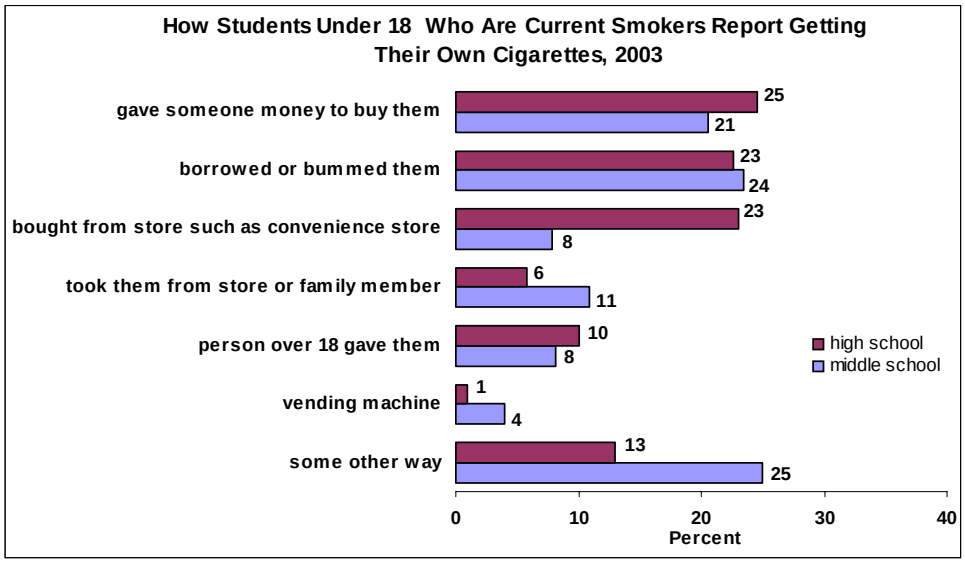
6. Access to Tobacco

6.1 How and Where Students Report Getting Tobacco

Youth access to tobacco products has been a major focus of concern in tobacco control efforts across the country. Federal and state laws in Arizona make it illegal for merchants to sell tobacco to youth under 18. Nonetheless, students in Arizona are able to get tobacco from multiple sources. Students were asked how they "usually" got their tobacco, and they were limited to specifying only one main source. We report on how current smokers report getting and buying their own cigarettes.

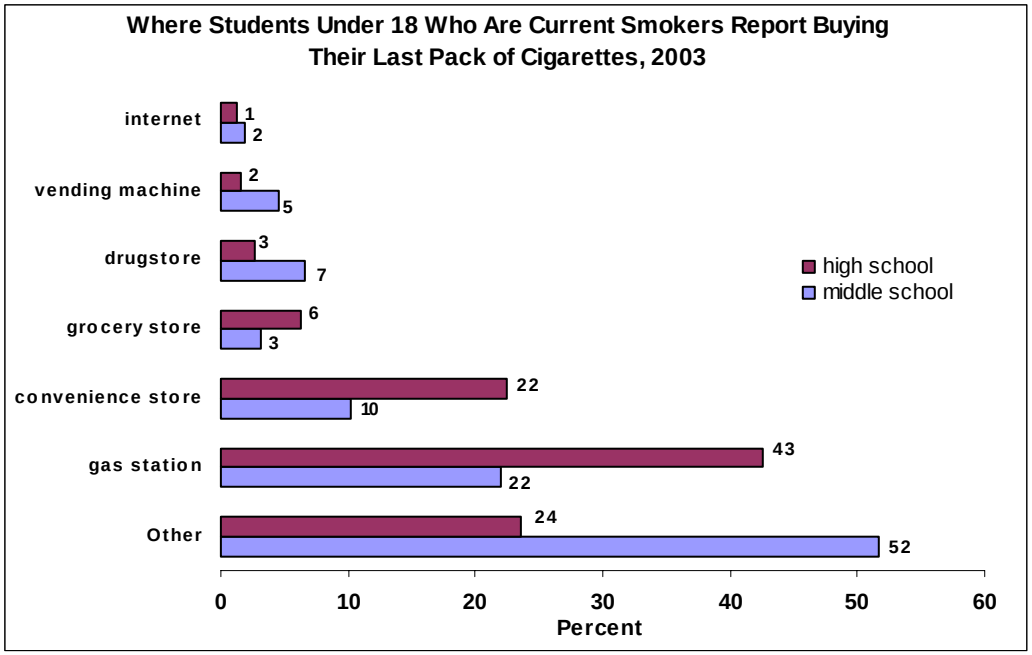
Both middle and high school students acquire cigarettes from commercial and social sources (friends, family, people over 18). Giving someone money to buy them, borrowing or bumming them, and "some other way" are the most common sources among middle school students (Figure 57). Among high school students, giving someone money to buy them and borrowing or bumming them are the main sources, but buying from a store (23%) is higher than for middle school students (8%). Overall, high school students report more use of commercial sources than middle school students, but social sources are still primary for them.

Figure 57.



When asked specifically where they bought their last pack of cigarettes, 31% of middle school and 32% of high school current smokers reported they did not *buy* a pack of cigarettes during the past 30 days. Of those who did buy, middle school students reported buying mostly from "other" sources, which could include buying from other youth. Gas stations and convenience stores were the main commercial sources. Among high school students, gas stations were the primary source, followed by "other" and convenience stores (Figure 58).

Figure 58.



6.2 Vendors Requesting Proof of Age

To get a sense of merchant compliance with statutes forbidding the sale of tobacco to underage youth, the students were questioned on whether they were asked to show proof of age when they bought or attempted to buy cigarettes in a store during the past 30 days. Although 65% of middle school and 56% of high school students who were current smokers reported they didn't buy cigarettes *in a store* during the past 30 days, among those did, 79% of middle school students reported they were *not* asked to show proof of age. This was true for 45% of high school students (Figure 59). That younger students claim to be asked proof of age less than older students may reflect assumptions on the part of vendors concerning who the cigarettes are for.

Students were also asked if someone in a store refused to sell them cigarettes during the past 30 days because of their age. Sixty-seven percent of high school students and 61% of middle school students who attempted to buy in a store during the past the days reported that no one refused to sell them cigarettes because of their age (Figure 60). Based on these reports, it is evident that there is still a serious compliance deficiency on the part of tobacco merchants. But just as worrying are the various social sources from which youth acquire tobacco. It is apparent that if young people want to get their hands on tobacco, it is very likely that they can find a way to get it fairly easily.

Figure 59.

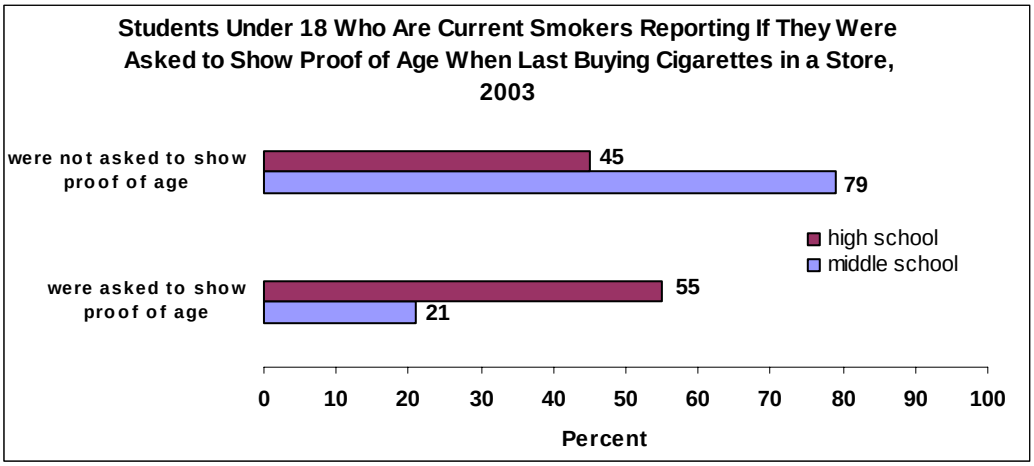
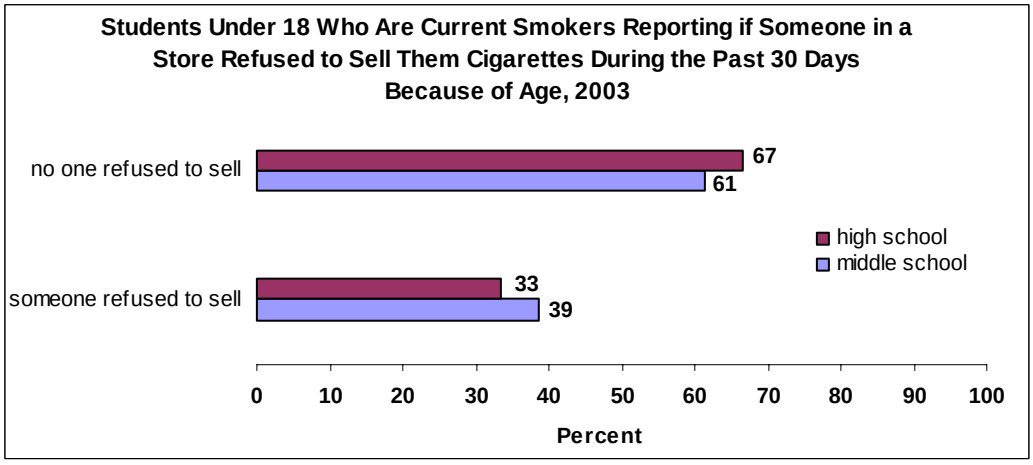


Figure 60.



7. Environmental Tobacco Smoke

Young people are exposed to environmental tobacco smoke at home, in cars, at work, in public places, and elsewhere. Second-hand smoke contains cancer causing chemicals and contributes to numerous diseases in both adults and children. However, the impact of second-hand smoke on young people's health is heightened due to their ongoing physiological development. Chronic conditions among children and youth associated with second-hand smoke include lower and upper respiratory infections, additional and increased severity of asthma attacks, ear infections, slower growth, cancers and leukemias in childhood, and many more[11].

7.1 Exposure in Rooms and Cars

Students were asked on how many of the past 7 days they had been in the same room or the same car with someone who was smoking cigarettes. Among all students, 58% reported exposure to cigarette smoke in a room at least once during the past week, and 40% reported exposure at least once in a car. Repeated exposure in a room (more than 3 times in the past week) was reported by 29% of middle school students and 35% of high school students. Repeated exposure in a car was reported by 22% of middle and high school students alike (Table 12).

If we compare the exposure to second-hand smoke of students who live with a smoker to those who do not, we find important differences. Seventy-seven percent of students who lived with a smoker reported exposure in a room at least once during the past week, compared to 43% who did not live with a smoker. Exposure on three or more occasions was 58% for those living with a smoker compared to 17% for those who did not.

Exposure in cars for students living with a smoker was also much higher than for students not living with a smoker. Sixty-three percent of students living with a smoker had at least one exposure to cigarette smoke in a car during the past week, compared to 20% who did not live with a smoker. Repeated exposure in a car was 42% for those living with a smoker compared to 8% for those who did not.

Table 12.

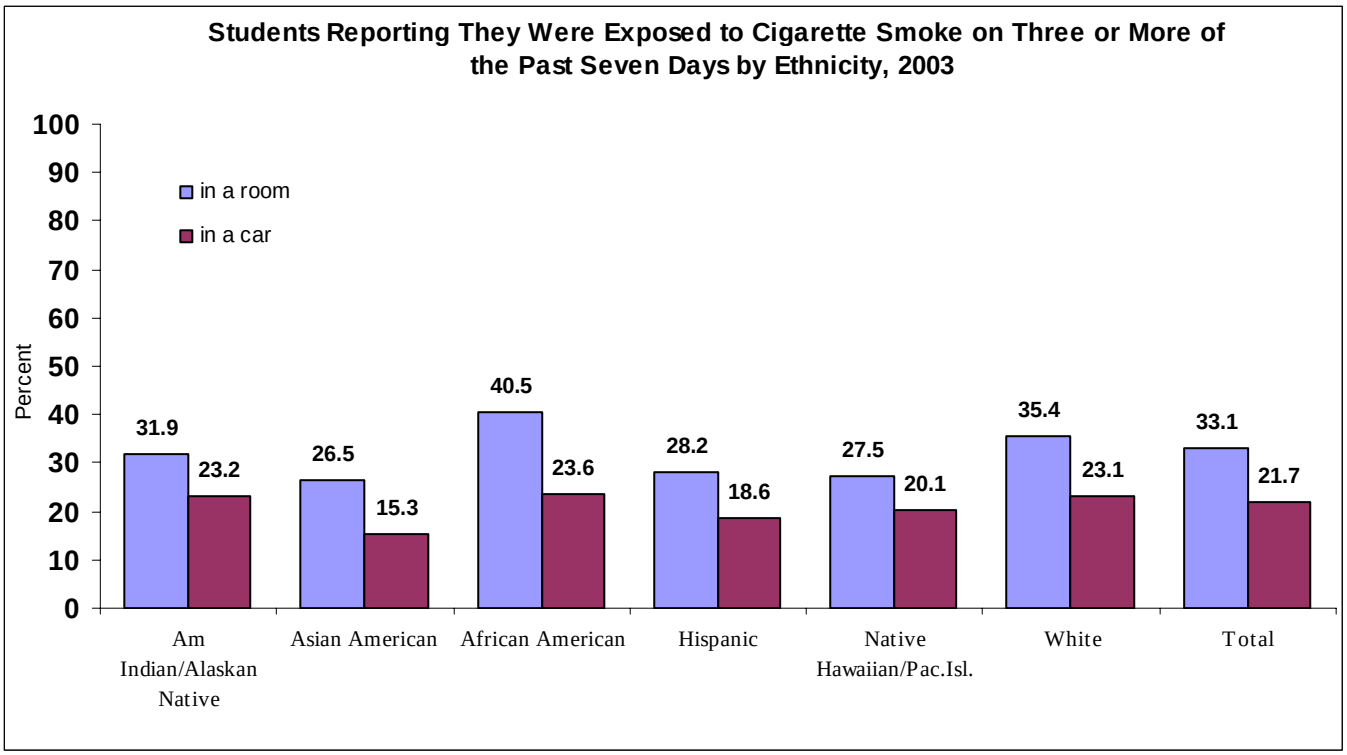
Exposure to Cigarette Smoke		**Middle School**	**High School**	**All Students- Lives with a smoker**	**All Students - Does not live with a smoker**
In a room	at least **once** during the past seven days	**49.2%**	**60.2%**	**77%**	**43%**
In a room	at least **three times** during the past seven days	**29.2%**	**35.4%**	**58%**	**17%**
In a car	at least **once** during the past seven days	**35.2%**	**38.9%**	**63%**	**20%**
In a car	at least **three times** during the past seven days	**21.6%**	**22.2%**	**42%**	**8%**

[11] "The Health Consequences of Involuntary Smoking: A Report of the Surgeon General", U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, Office on Smoking and Health, Rockville, Maryland, 1986.

7.2 Exposure to Second-hand Smoke by Ethnicity

Reports of repeated exposure to cigarette smoke in a room or a car ranged by ethnicity from 41% of African American students to 27% o Asian American students. White students reported the second highest repeated exposure (35%). Reports of repeated exposure in a car showed a different pattern in that the levels of repeated exposure were lower, and there was less variation in reported exposure across ethnic groups. American Indian, African American and white students reported similar rates (around 23%). Hispanic (19%) and Asian American (15%) students reported the lowest rates (Figure 61).

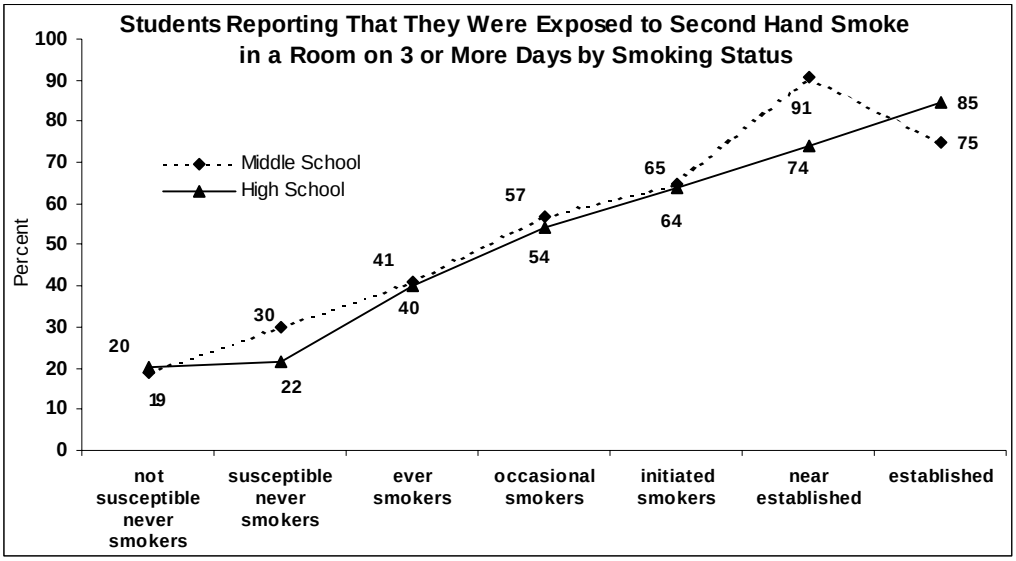
Figure 61.



7.3 Exposure to Second-hand Smoke by Smoking Status

In addition to being exposed to second-hand smoke in the family, students are increasingly exposed to their friends' cigarette smoke as more take up smoking. If we look at students' exposure to second-hand smoke in a room by their status on the smoking continuum, the data confirm that students who smoke the most are far more likely to report repeated exposure than students who don't smoke or smoke less (Figure 62). It is interesting to note that middle school students across the continuum report slightly higher rates of repeated exposure to second-hand smoke, for the most part, than high school students. For smokers on the continuum, the repeated exposure numbers are somewhat higher than reports of living with a smoker (Figure 50). For non-smokers on the continuum, the percent reporting repeated exposure to second-hand smoke is lower than those who report living with a smoker. This could very well be an indication that student smokers are being exposed to high levels of second-hand smoke by their friends who smoke.

Figure 62.



8. Social, School and Community Interventions

Social, school, and community interventions represent opportunities for influencing young people's susceptibility to and predisposition for using tobacco. One of the most powerful social interventions occurs when medical personnel, such as doctors and dentists, discuss the dangers of smoking with their preteen and teenage patients. Among adult smokers, interventions by medical personnel, especially those that refer patients to cessation services, are known to have an important influence on motivating smokers to quit[12]. School-based prevention education programs are also a commonly used intervention. In Arizona, school prevention programs are targeted primarily to upper primary and middle school students. Community interventions can take the form of clubs, youth coalitions, and other community-based activities, such youth involvement in merchant education and vendor compliance checks. All of these interventions are viewed as key prevention levers that help steer young people away from tobacco use. The students were asked about their exposure to and involvement in these types of interventions.

8.1 Interventions from Medical Personnel

The percent of students who reported hearing about the dangers of tobacco use from doctors, dentists, or someone in their office during the 12 months prior to the survey is distressingly low. Of those who had visited a doctor's office, 25% of middle school students and 18% of high school students reported they had heard from them about the dangers of using tobacco. Of those who had visited a dentist's office, 19% of middle school students and 13% of high school students had heard from them about the dangers of using tobacco. Not included in these numbers are the 13% of students who reported they had not visited a doctor's office and the 15% who hadn't visited a dentist's office during the past 12 months.

Looking across the smoking continuum, somewhat more current smokers than non-smokers reported hearing messages from doctors about the dangers of smoking, especially in middle school (Figure 63). This trend was slightly lower for visits to dentists (Figure 64). Overall, it is fair to say that doctors and dentists in Arizona are not taking advantage of the opportunity to give medical advice to preteens and teenagers on the dangers of smoking. The lack of influence from these voices of authority on health is a serious deficiency in terms of interventions for youth. As a matter for prevention policy, this could be an effective place to take action.

[12] Walsh, M., Basta, J., Nodora, J., Solop, F., Hagen K., and McCarrier, K., "Arizona Adult Tobacco Survey 2002, Executive Report", Arizona Department of Health Services, Tobacco Education and Prevention Program, Evaluation Unit, University of Arizona and The Social Research Laboratory, Northern Arizona University, 2004.

Figure 63.

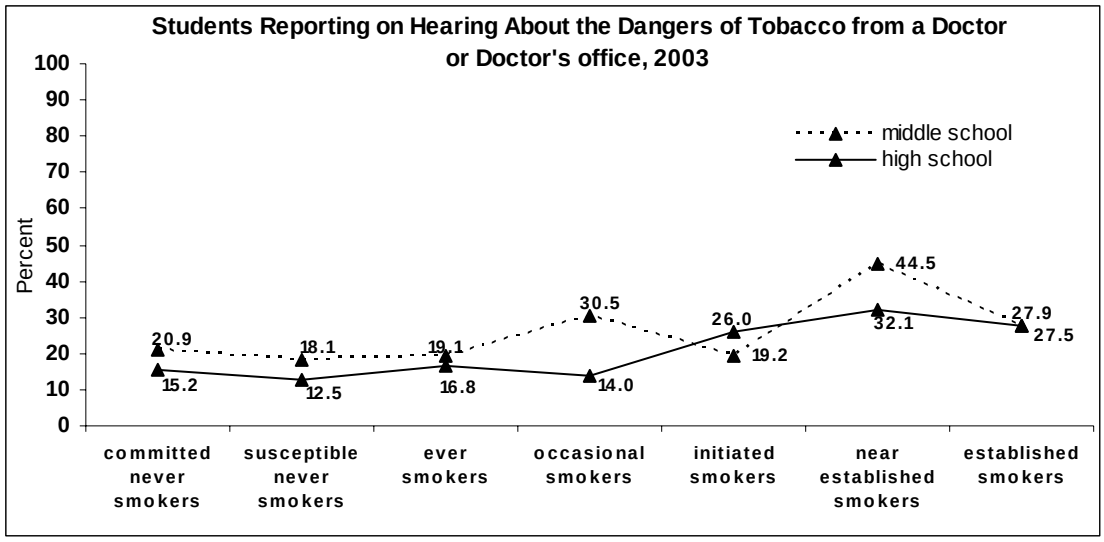
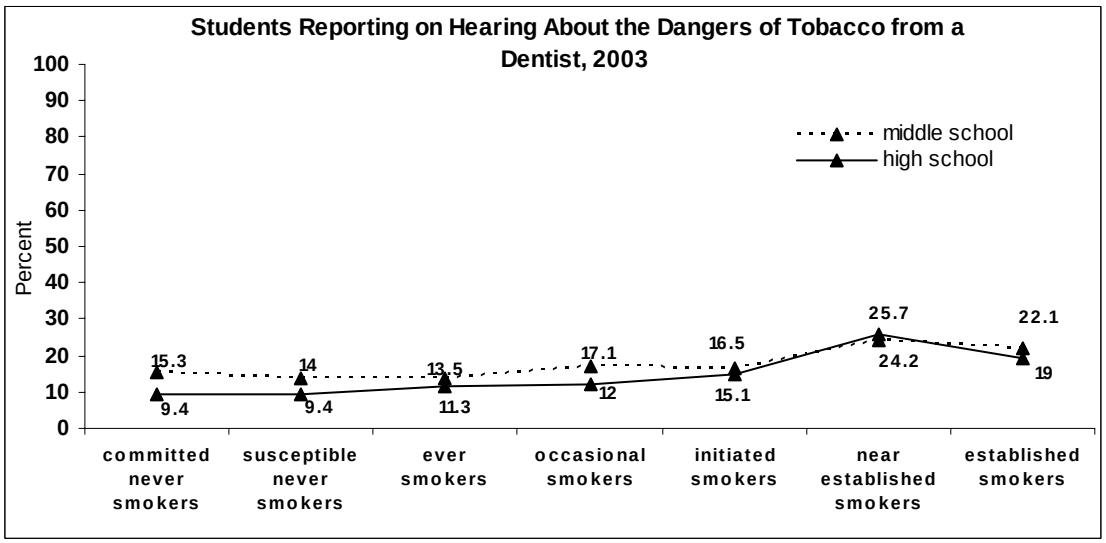


Figure 64.

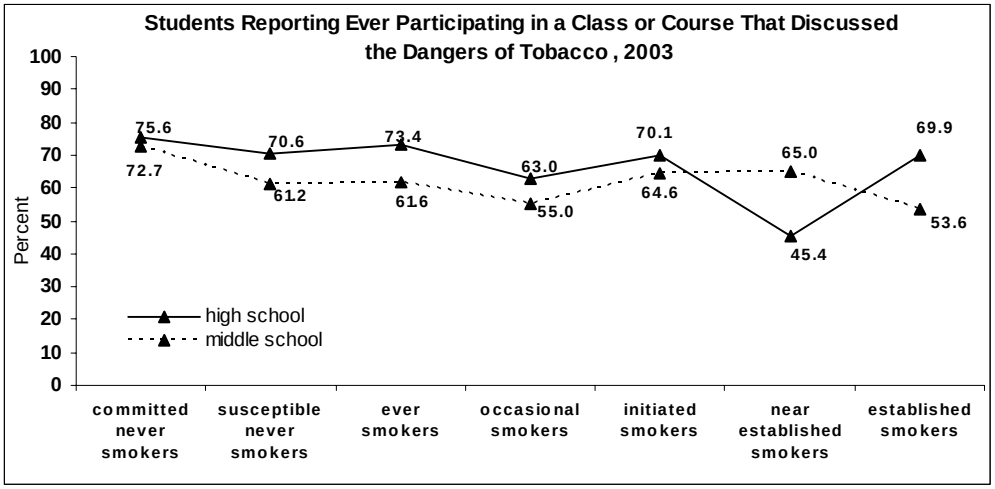


8.2 School and Community Interventions

Prevention education to students throughout all grade levels is part of the Centers for Disease Control's guidelines for comprehensive anti-tobacco programming. Development and practice of refusal skills, developing peer norms against tobacco use, knowledge of the physiological and social consequences of tobacco use, as well as parental involvement, school policy on tobacco use, and other programmatic components are recommended.

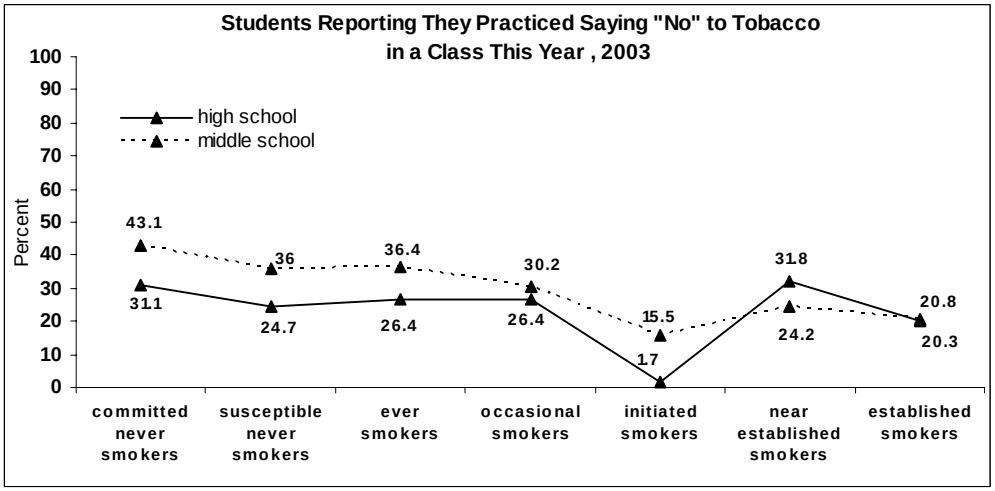
The YTS questioned students on whether they had ever participated in a class or course that discussed the dangers of tobacco at any time during their schooling and if they had practiced refusal skills during the current school year. Seventy-two percent of high school students and 67% of middle school students said they had participated in such a class at some point during their schooling, but far fewer reported practicing refusal skills during the current school year.

Figure 65.



Looking at students across the smoking continuum, reports of exposure to a class or course that discussed the dangers of tobacco were fairly similar. Established smokers in middle school and near established smokers in high school had the lowest reports. (Figure 65).

Figure 66.



Far fewer students reported practicing their refusal skills during the current school year, 39% of middle school students and 16% of high school students. By grade level, this ranged from 54% of 6th graders to 11% of 12th graders, demonstrating that practicing refusal skills is much more prone to happen in middle school than in high school (Figure 66).

A small percentage of high school students (16%) and middle school students (28%) reported participating in a school event to discourage tobacco use during the past school year. There was some amount of variation in these reports by middle school students across the smoking continuum, but less at the high school level (Figure 67). Even fewer students reported being involved in a club or group to discourage tobacco use (7% of high school students and 14% of middle school students). This was fairly steady across the smoking continuum (Figure 68).

Figure 67.

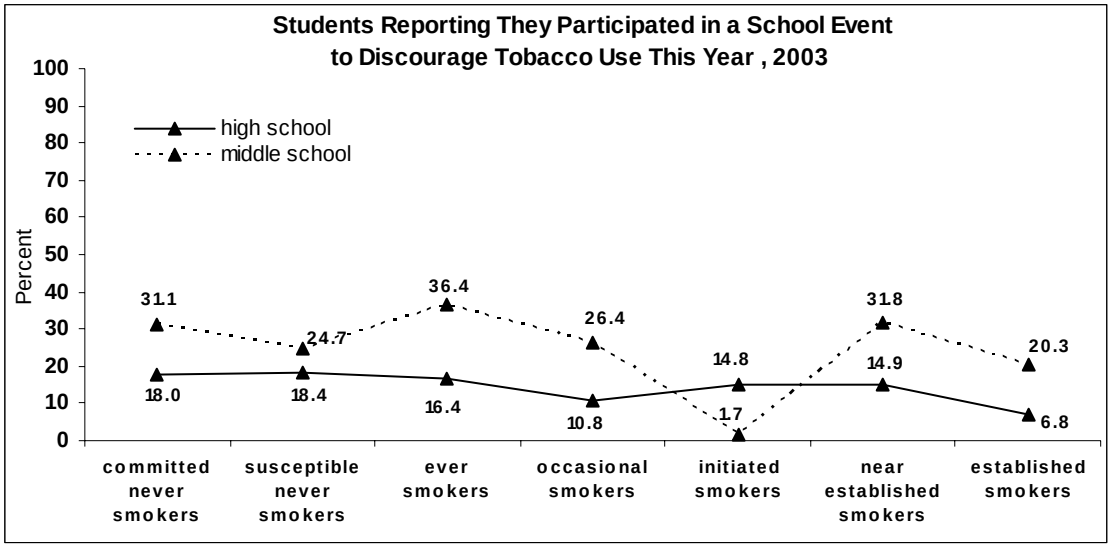
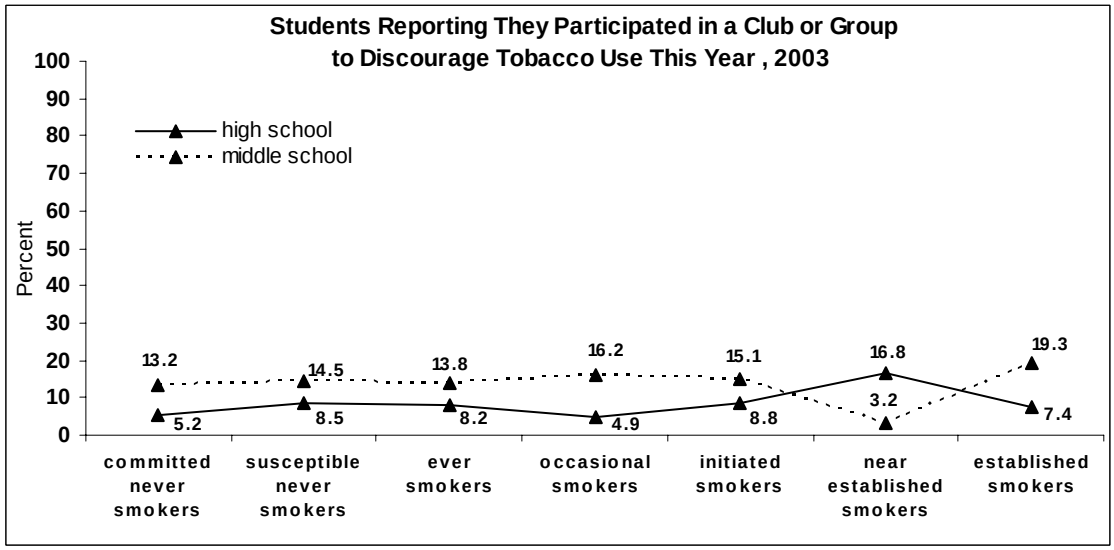
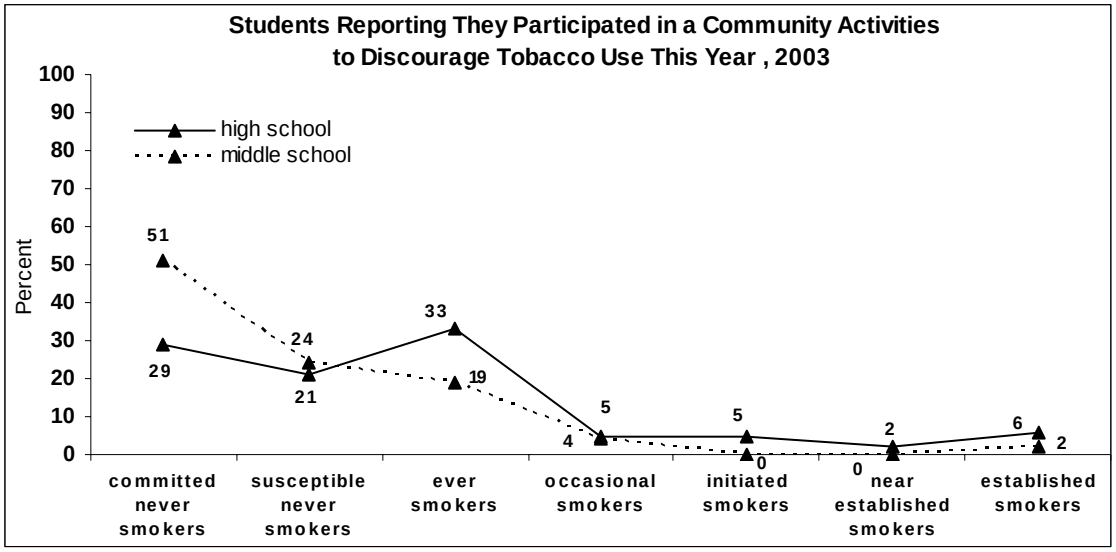


Figure 68.



Outside the school, at the community level, far more non-smokers than smokers reported being involved in a community activity that discouraged tobacco use, especially in middle school (Figure 69). Overall, there did not appear to be a lot of anti-tobacco school events or community clubs or groups that students participated in, and the proportion who did decreased by grade.

Figure 69.



Even though student smoking rates appear to be progressively declining, the figures in this section of the report suggest that there is room for more prevention education for middle and high school students. Unfortunately, it is very difficult to find effective prevention programs (or cessation programs) for high school students, more of whom become smokers or increase their smoking at each grade level. More participation in prevention from health care providers may be particularly valuable.

9. Comparing Students in District and Charter Schools

This survey included students from both district schools and charter schools. As mentioned in section 2b describing the sample, students from 81 charter schools (35 middle and 46 high schools) and 76 district schools (40 middle and 36 high schools) participated (see Table A11 in the Appendix).

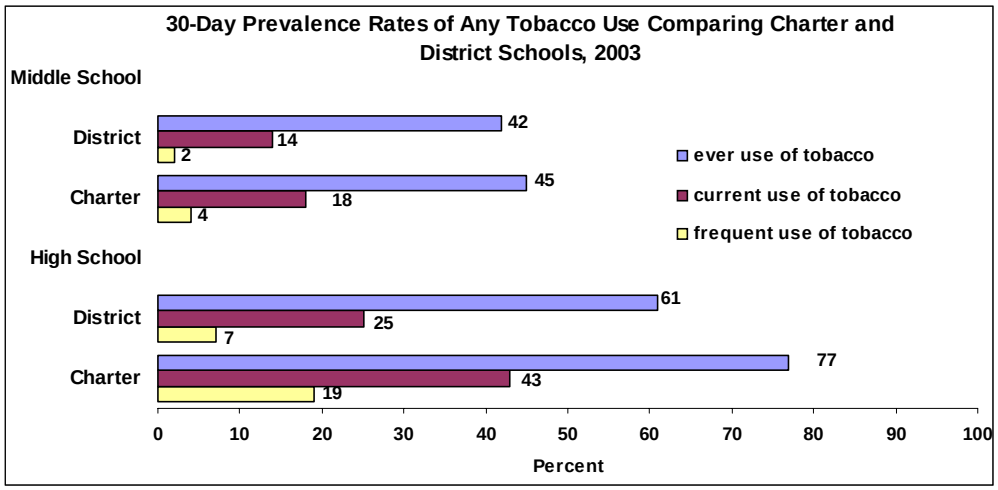
A detailed discussion of the differences between district and charter schools is outside the scope of this report, but a few statements are warranted to provide some background for the data presented in this section. Charter schools are public schools, with 80% of their funding coming from local school districts and the state. They offer parents and students alternatives to neighborhood district schools in that they operate independently, choose their own academic focus, have fewer students and therefore smaller class sizes, and can hire teachers that are not state certified. Charter schools are known to serve different clientele than district schools because parents must actively seek them out. At the high school level, there are many college preparatory charter schools that cater to high academic achievers, but many schools also serve at-risk students who have left the traditional public school system and are looking for a "last resort"[13]. In 2003, 7.3% of students enrolled in public schools in Arizona attended charter schools.

Examination of tobacco prevalence rates by type of school show that there are marked differences between district and charter schools.

9.1 Prevalence Rates by School Type

Figure 70 presents the prevalence rates for ever, current and frequent tobacco use for middle and high school students in district and charter schools. The differences are not very large at the middle school level, but they are quite pronounced at the high school level. For example, the prevalence rate for current use of tobacco among district high school students is 25% compared to 43% for charter high school students. The rate of frequent use is 7% for district high school students compared to 19% for charter high school students.

Figure 70.



[13] Cobb, C.D., Glass, G.V., "Ethnic Segregation in Arizona Charter Schools", Education Policy Analysis Archives, Volume 7, Number 1, January, 1999. http://epaa.asu.edu/epaa/v7n1/

9.2 District and Charter Prevalence Rates by Grade

The following three figures (Figures 71, 72 and 73) show differences by grade in the percentage of students in district and charter schools who are ever, current and frequent tobacco users. All three figures show substantially higher rates in charter schools beginning in the 8th grade and continuing through the 12th grade. In many cases the percentage difference at the same grade level between the two types of schools is over 15%. Of particular alarm is the proportion of students in charter schools who report that they used tobacco on 20 or more of the past 30 days (Figure 73). Over 20% of 11th and 12th graders in charter schools report frequent use, whereas in district schools, around 8% of juniors and seniors report frequent use.

Figure 71.

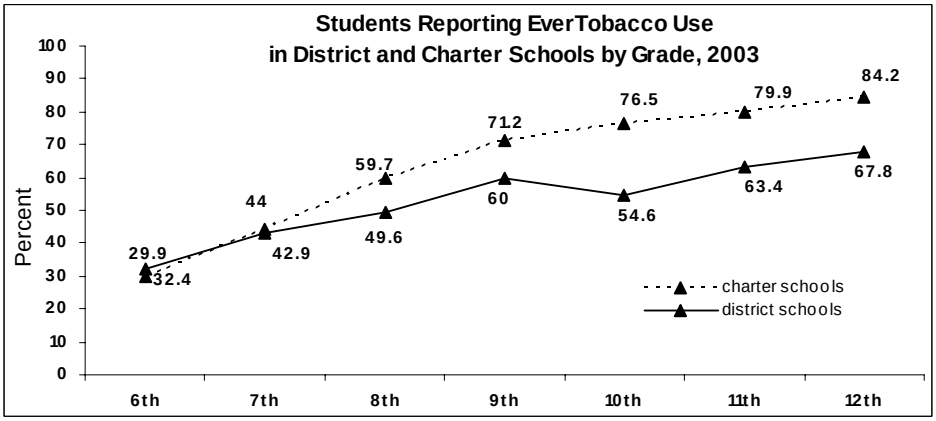


Figure 72.

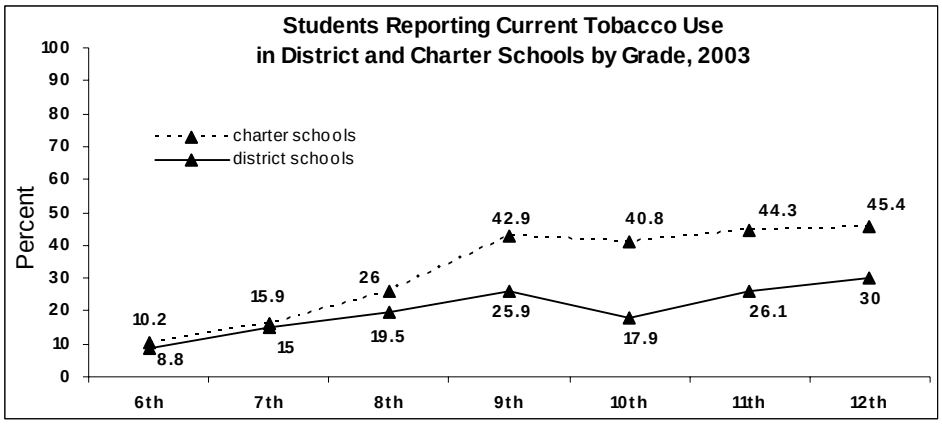
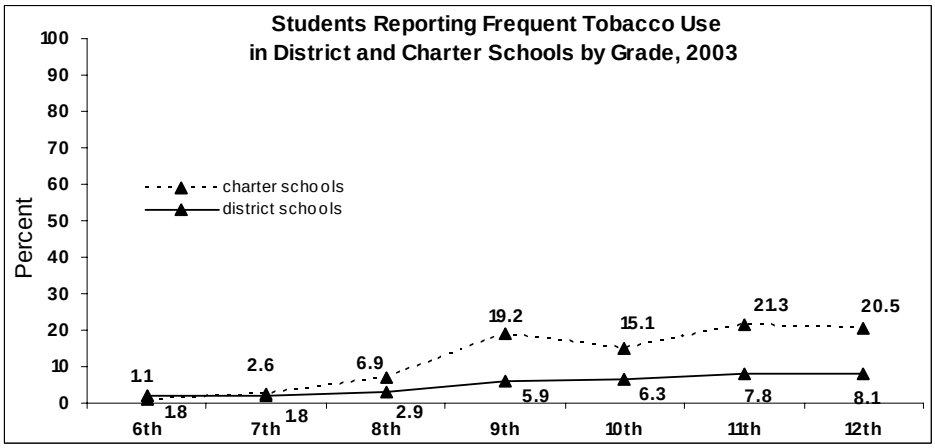


Figure 73.



The Smoking Continuum in District and Charter Schools

If we look at students in district and charter schools on the smoking continuum, we see again that the differences in percent of smokers by category at the middle school level (Figure 74) are not very pronounced, but they are quite pronounced at the high school level (Figure 75). Charter high schools have a lower percentage of committed never smokers and a higher percentage of established smokers.

Figure 74.

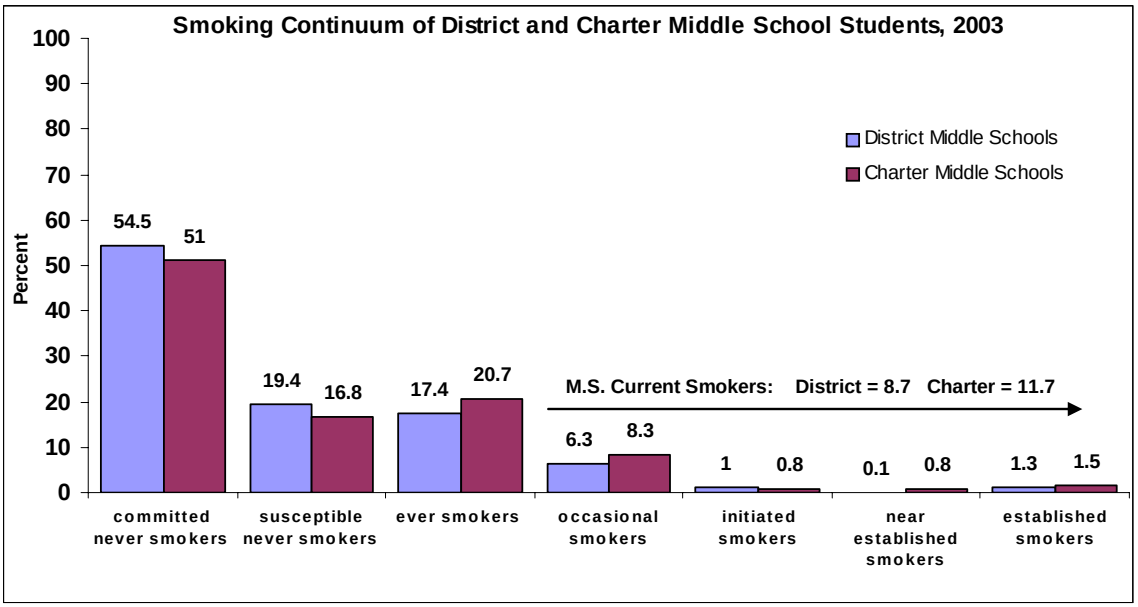
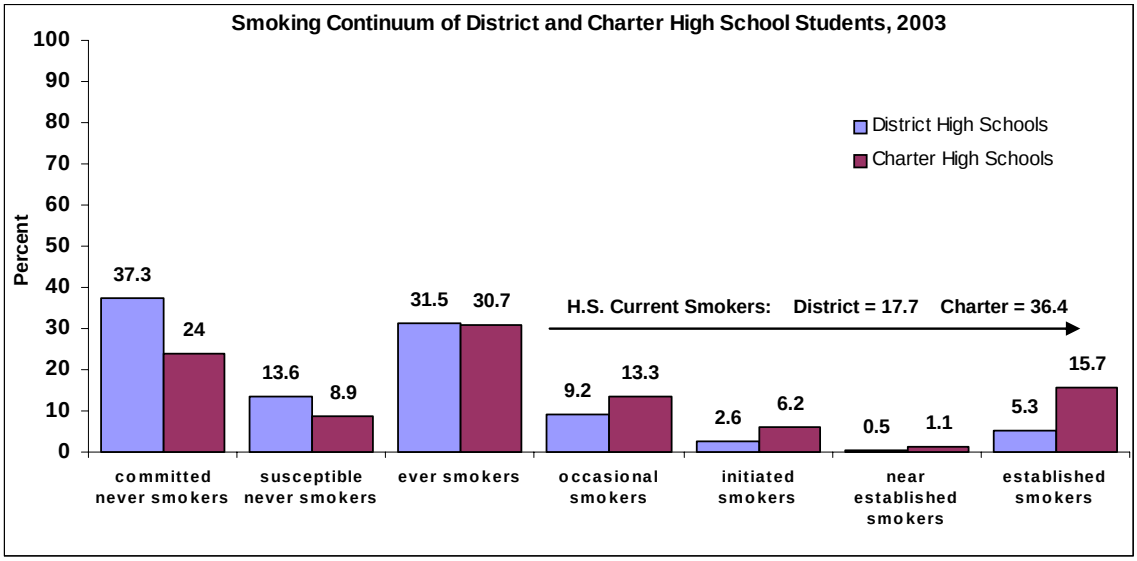


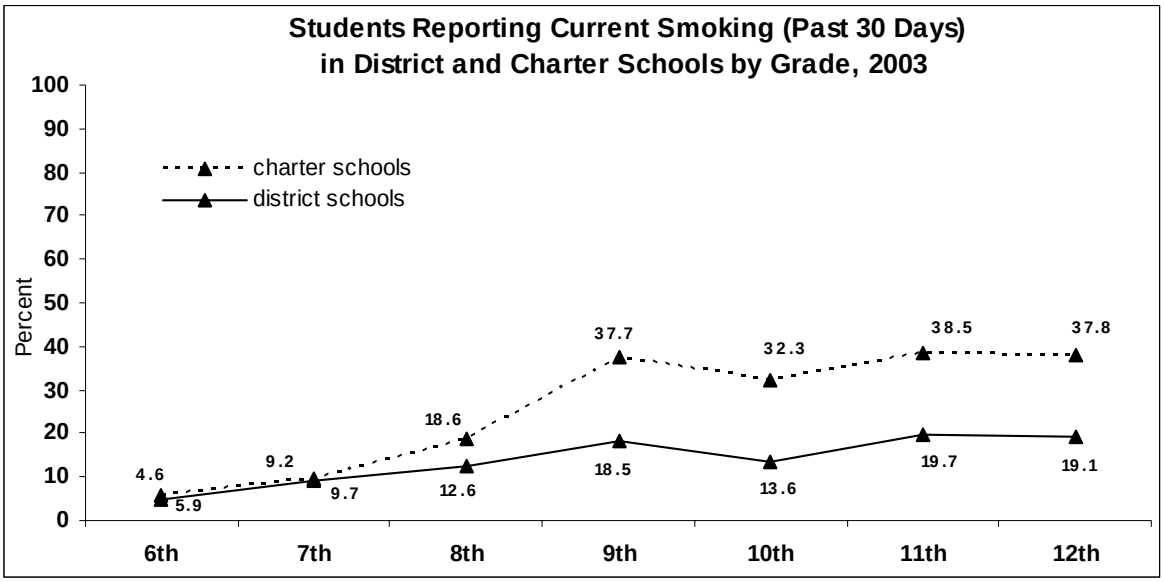
Figure 75.



Current Smoking by Grade Comparing Students in District and Charter Schools

When we look at current smoking by grade in the two types of schools, the prevalence rates differ by nearly 20% in grades 9 through 12.

Figure 76.



9.3 Influence of Family

In the following pages, we examine the influence of family and friends to see if there are any obvious differences in these areas between students in charter and district schools that may be associated with the higher use rates in charter schools.

Regarding family norms, there was no difference in the percent of students in district and charter middle schools who reported living with someone who smokes (39%). In high schools, however, 49% of students in charter schools reported they lived with someone who smokes compared to 36% in district schools, a 13% difference. Unfortunately, there is no way to identify who the family members are, so students could be referring to siblings as well as parents or other family members living in their household.

If we look across the smoking continuum, middle school students who were near-established and established smokers in *district* schools had the highest reports of living with a smoker (Figure 77). At the high school level, higher rates of living with a smoker were reported for all categories of smokers for charter students with the exception of initiated and near-established smokers (Figure 78).

Figure 77.

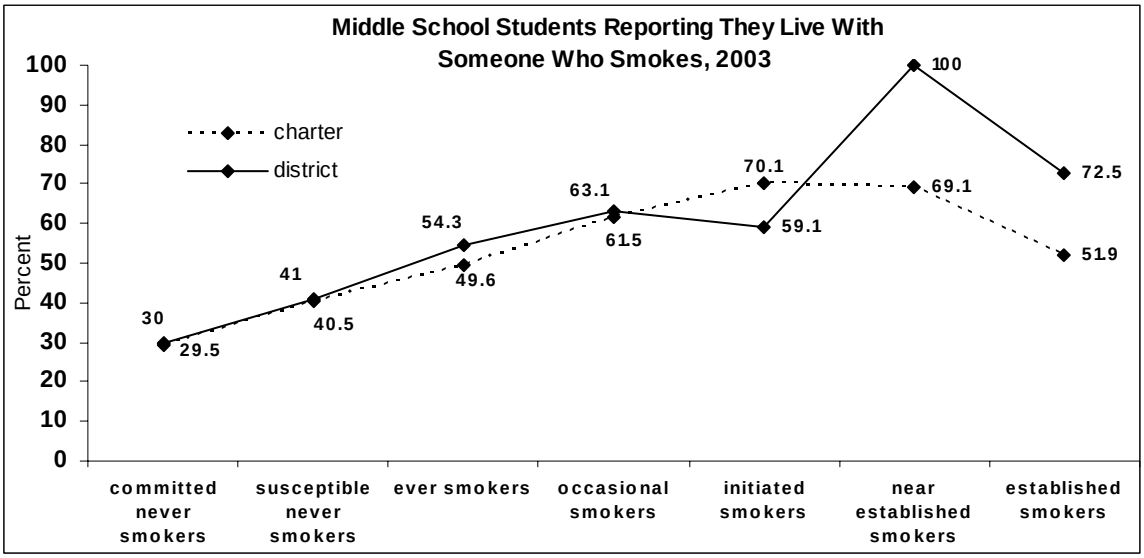
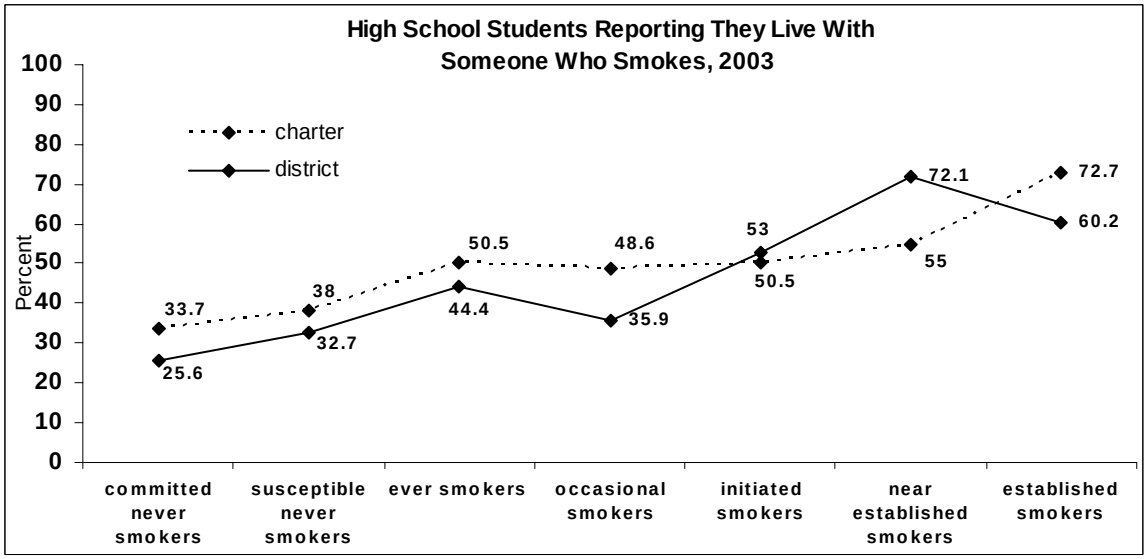
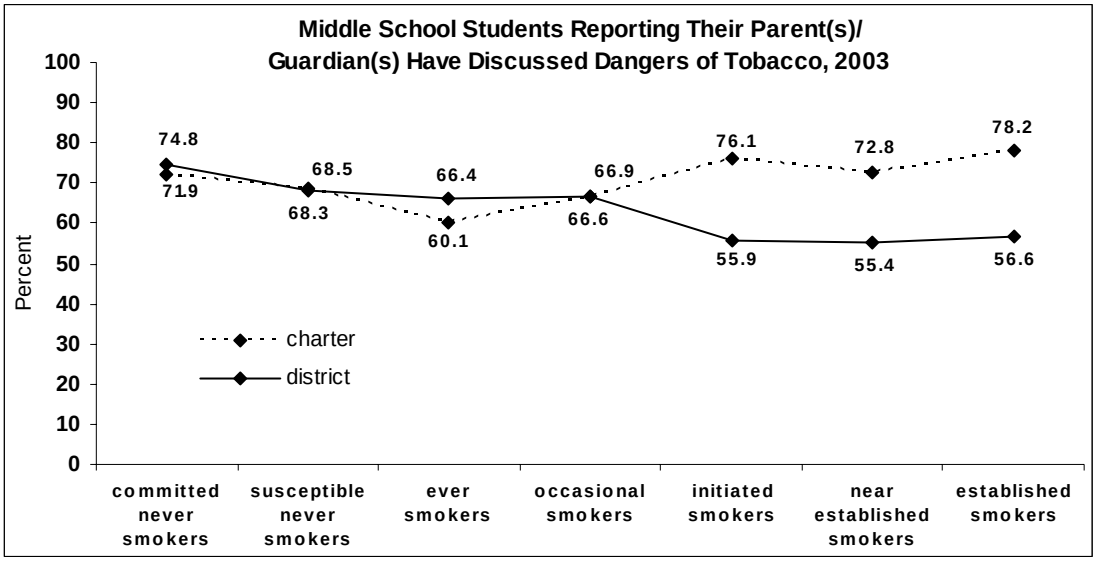


Figure 78.



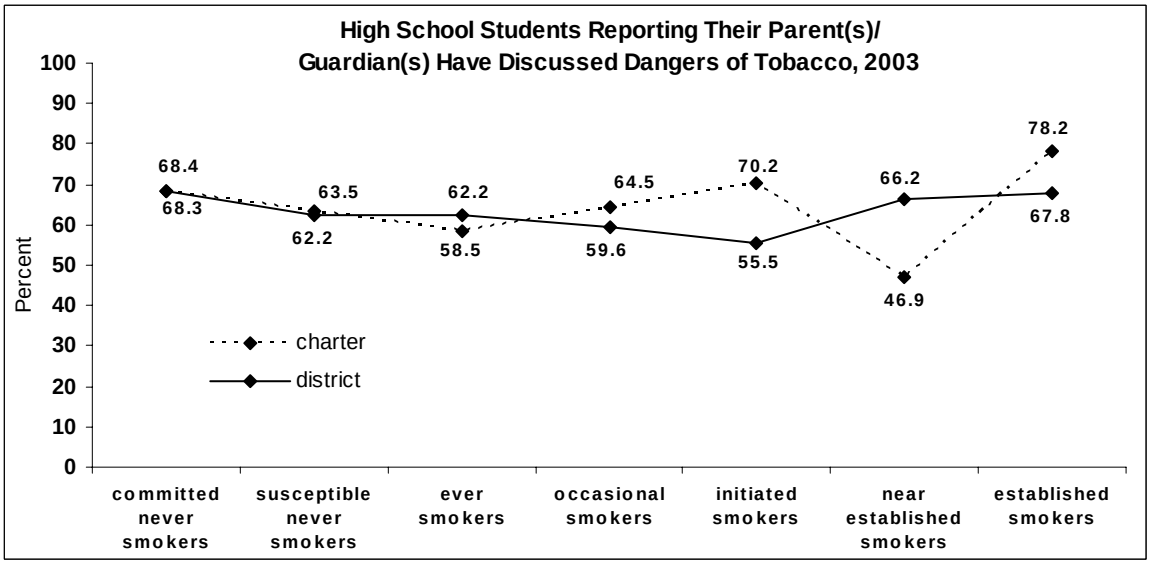
Given the high rates of smoking among high school students in charter schools, one might expect to find they have lower reports of hearing about the dangers of tobacco from their parents. However, charter and district students reported very similar rates, on average. Among charter middle school students, 69% reported that their parents or guardians had discussed the dangers of tobacco with them, compared to 71% of district middle school students. At the high school level, there was only a 2% difference, 66% among charter school students compared to 64% among district school students.

Figure 79.



However, looking at student reports across the smoking continuum, middle school smokers in charter schools (Figure 79), namely, initiated, near-established and established smokers, reported *higher* rates of parental discussions of the dangers of tobacco (around 75%) than district middle school smokers (around 55%). Parents of middle school tobacco users in charter schools, therefore, may be aware that their children are using tobacco or that tobacco use is a problem among students in the schools their children attend.

Figure 80.



Generally, more smokers in charter high schools than in district high schools also reported that their parents discussed the dangers of smoking with them (with the exception of the near established smokers (Figure 80).We cannot conclude, therefore, that parents of students in charter schools are discussing the dangers of tobacco less than parents of students in district schools.

9.4 Influence of Friends

We explored the smoking continuum to see if different patterns emerged in charter and district schools regarding close friends who smoke. At the middle school level, students from district schools actually reported higher rates of having close friends who smoke, with the exception of established smokers (Figure 81). At the high school level, the response rates were somewhat higher across the spectrum in charter schools, but not among established smokers (Figure 82).

Figure 81.

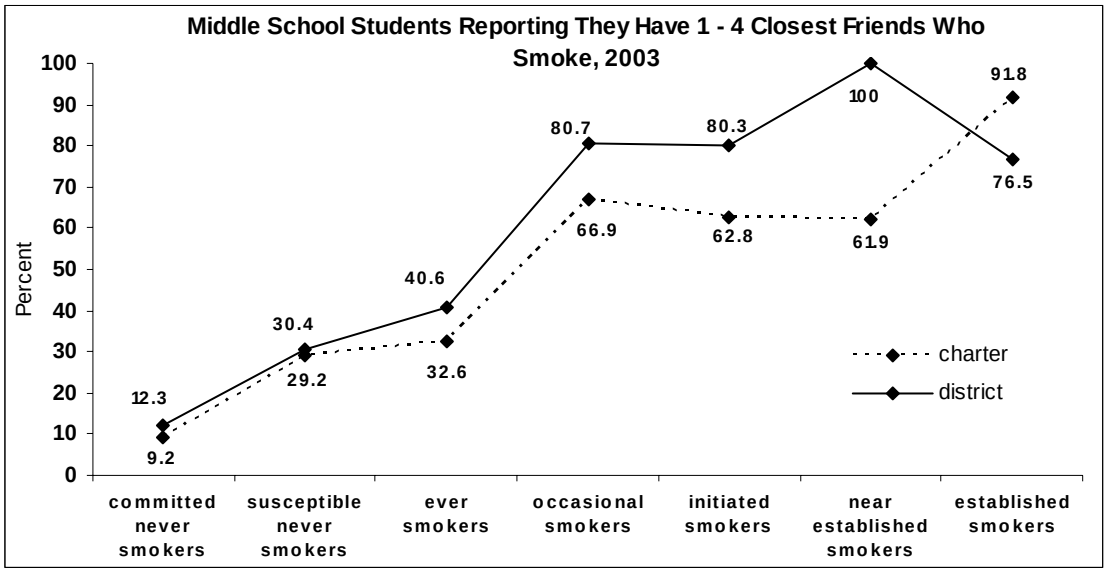
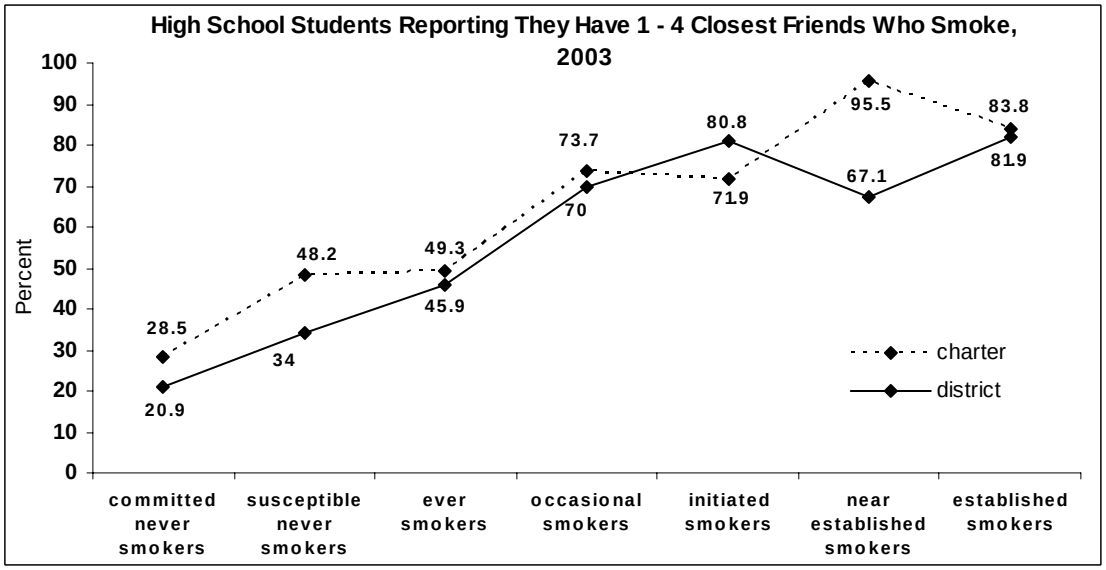


Figure 82.



Differences in Beliefs about Tobacco Use and Having More Friends

Students in charter schools, both middle and high, had strong perceptions that young people who smoke have more friends. In Figures 83 and 84, there are notable differences between charter and district students across the smoking continuum about this issue. The perception that young people who smoke have more friends is noticeably higher in charter schools, particularly among middle school smokers. One interesting twist in both figures below is that the established smokers in district schools had higher responses than their charter school counterparts.

Figure 83.

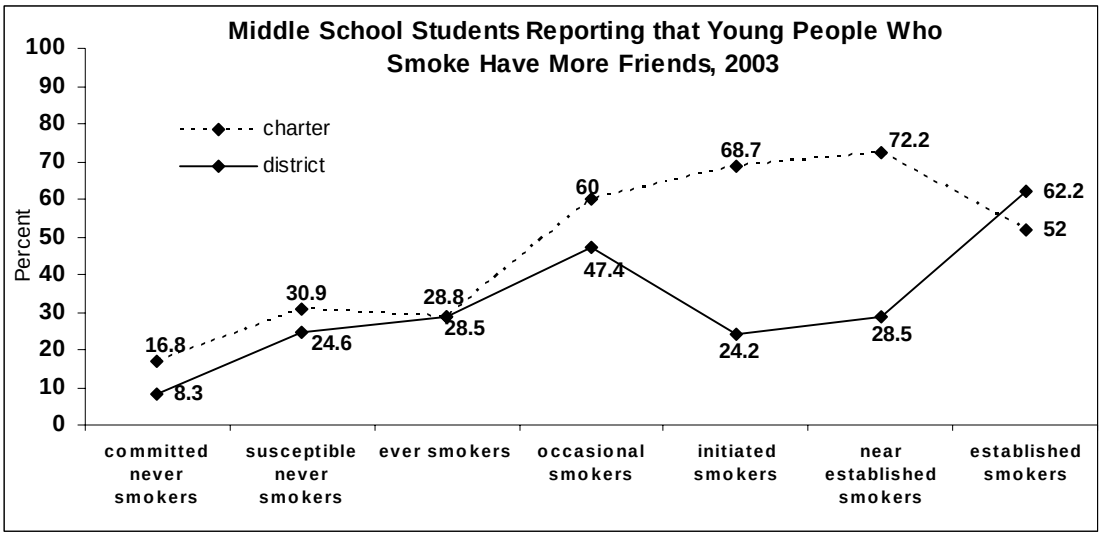
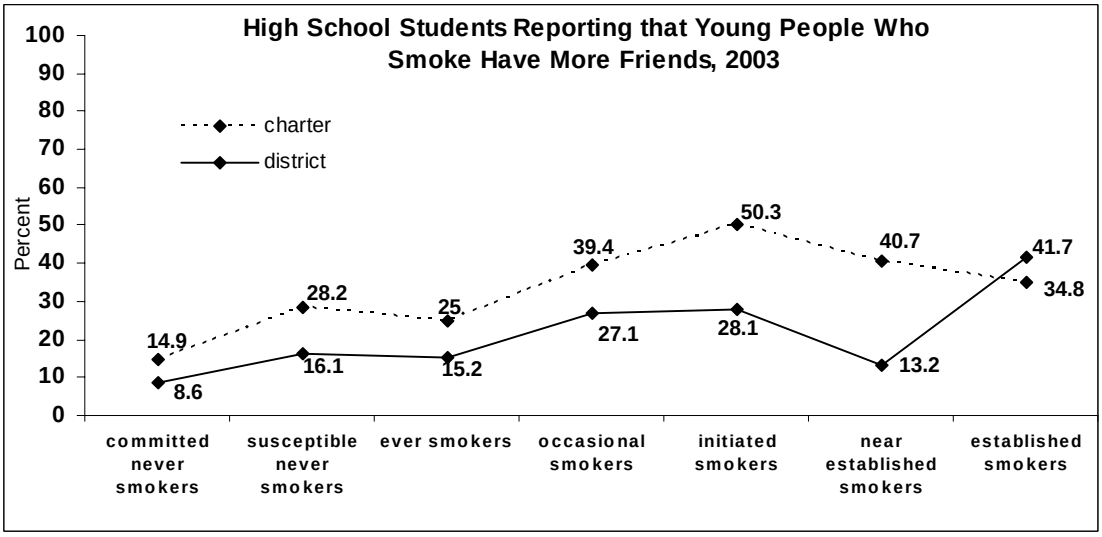


Figure 84.



9.5 Quitting

We wondered if students in charter and district schools expressed different attitudes and behaviors around quitting tobacco use. In charter and district middle schools, exactly the same percent of smokers expressed a desire to quit smoking, 53%. In charter high schools, 56% of smokers expressed a desire to quit compared to 48% of smokers in district high schools. Students in charter schools reported higher rates of one quit attempt during the preceding year, with 55% of students in charter schools reported a quit attempt compared to 46% in district schools (all grades combined). There was virtually no difference in the proportion of students who had participated in a program to help them quit (15% in charter schools and 13% in district schools). In effect, students in charter schools had slightly higher self-reports of wanting to quit and attempting to quit.

Conclusion

In conclusion, other than the perception of smokers having more friends and high school charter students reporting higher rates of living with a smoker, we could not identify variables in this data set that could help explain the large differences in tobacco use rates between high school students in charter and district schools. Variables that might help identify why this group of students has higher tobacco use rates, such as parental education level, parental income and other socio-economic indicators are not present in this data set. Therefore, further investigation into the high smoking rates by charter school students is warranted.

10. Methods, Sample Description, and Study Limitations

The Instrument

The Arizona Youth Tobacco Survey (YTS) uses a core set of questions developed by the Centers for Disease Control and Prevention, Office on Smoking and Health (CDC) to assist states with their tobacco control efforts. The Arizona YTS was administered simultaneously with the Arizona Youth Risk Behavior Survey in the spring of 2003 as part of a collaborative effort between the Arizona Department of Education (ADE) and the Arizona Department of Health Services (ADHS). The Arizona YTS contains 84 multiple-choice questions covering prevalence, sources of tobacco products, attitudes and beliefs, environmental tobacco smoker, and media exposure modeled after the standard CDC recommended core YTS questionnaire. Results from the Arizona YTS can therefore be compared with results from other states and the National Youth Tobacco Survey conducted by the CDC.

Sampling

The sampling methods for the 2003 Arizona YTS were devised by the CDC and a subcontractor, ORC Macro. The sampling involved a two-stage cluster sampling design to obtain a representative sample of students at the state (but not county) level in grades 6-8 and grades 9-12. In the first sampling stage, district and charter schools were selected randomly within grade range. In the second sampling stage, classes were selected randomly from each middle and high school with equal probability sampling.

School and Student Response Rates

Classes from 40 district middle schools, 40 charter middle schools, 40 district high schools and 51 charter high schools were selected for the sample. All students in selected classes were eligible to participate. Schools were given the discretion to administer active or passive parental consent forms, and 14% of the participating schools opted for active parental consent. The student and school response rates, presented below, are regarded as very good.

Table 13. 2003 YTS Response Rates

YTS 2003 School and Student Response Rates							
	Student			School			Combined
	Selected	Participated	%	Selected	Participated	%	
Regular Middle	2424	2143	88.41%	40	40	100.00%	88.41%
Charter Middle	1703	1526	89.61%	40	35	87.50%	78.41%
Regular High	1806	1602	88.70%	40	36	92.50%	82.05%
Charter High	1716	1365	79.55%	51	46	90.20%	71.75%
Total	7649	6636	86.76%	171	158	92.00%	79.82%

Source: ORC Macro, YTS Arizona School Sample

Weighting and Analysis

A weighting system was devised based on the probability of the selecting the school and selecting the classroom, a non-response adjustment factor for school size, a class adjustment factor calculated by school, at student-level non-response adjustment calculated by class, and a post-stratification adjustment factor calculated by gender, grade and race. The weighting system was designed to allow statewide inferences to be made concerning tobacco use risk behaviors for all students in grades 6-8 and grades 9-12.

The analyses presented in this report were calculated using SPSS version 12.0 using the sampling weights. However, due to the lack of the appropriate module for complex sample design, we do not report confidence limits in this report. The weighting system was devised to obtain 95% confidence intervals.

Study Limitations

There are several important limitations to surveillance methodology, and to this survey in particular.

1) The survey relies on self-reports, which are inherently non-objective. Because the data presented in the analysis cannot be considered absolute representations of fact, the prevalence rates reported are estimates and are meant to capture general trends. The most important functions of the survey are to detect general trends and to uncover points of interest for further inquiry and study.

2) The data in this survey are not representative of and cannot be generalized to "youth" in Arizona. They can only be generalized to a particular student population. Private schools, parochial schools, juvenile detention centers and other special schools are not included in the survey. This is very important due to the body of existing evidence demonstrating that adolescents who are not in school (including those with high numbers of absences) have higher rates of tobacco use than adolescents who are in school. This is known to be true for high school dropouts in particular.

3) The survey does not collect data on socioeconomic and cultural variables, particularly in relation to the family, that are associated with and help predict tobacco use.

References

"Closing the Gap on Youth Tobacco Use", University of California Irvine, Transdisciplinary Tobacco Use Research Center, www.tturc.uci.edu/TTURCyouthreport.pdf., 2004.

Cobb, C.D., Glass, G.V., "Ethnic Segregation in Arizona Charter Schools", Education Policy Analysis Archives, Volume 7, Number 1, January, 1999. http://epaa.asu.edu/epaa/v7n1/

Delnevo, CD, Muthurajah, S, Brown, M, Hrywma, M, Malka, ES, "The 2001 New Jersey Youth Tobacco Survey: A Statewide Report for the New Jersey Department of Health and Senior Services", New Brunswick, N.J.: University of Medicine and Dentistry of New Jersey School of Public Health; April 2002, www.state.nj.us/health/as/yts/yts2001.pdf.

Evans, D, Hersey, J, Ulasevich, A, "Legacy First Look Report 2: What Youth Think About Smoking: Results from the 1999 National Youth Tobacco Survey", American Legacy Foundation, October, 2000, www.americanlegacy.org/americanlegacy/skins/alf/home.aspx

Farrelly, M, Faulkner, D., **"**Legacy First Look Report 1, Cigarette Smoking Among Youth: Results from the 1999 National Youth Tobacco Survey". American Legacy Foundation, June, 2000, www.americanlegacy.org/americanlegacy/skins/alf/home.aspx

Farrelly, M.C., Davis, K.C., Yarsevich, J.M., Haviland, M.L., Hersey, J.C., Girlando, M.E., Healton, C.G., "Legacy First Look Report 9, Getting to the Truth: Assessing Youth's Reactions to the truth[sm] and 'Think, Don't Smoke' Tobacco Countermarketing Campaigns", American Legacy Foundation, June, 2002. www.americanlegacy.org/americanlegacy/skins/alf/home.aspx

Greenberg, Mark T. "Current and Future Challenges in School-Based Prevention: The Researcher Perspective", *Prevention Science*, Vol. 5, No. 1, March 2004, Kluwer Academic Publishers.

"State High School Youth Smoking Rates and Rankings", Campaign for Tobacco Free Kids, 2003, www.tobaccofreekids.org/research/factsheets/pdf/0173.pdf

Johnston, L, O'Malley, PM, Bachman J, "Monitoring the Future: National Results on Adolescent Drug Use, Overview of Key Findings, 2002", National Institute on Drug Abuse, Bethesda, Maryland, http://www.drugabuse.gov/PDF/overview2002.pdf.

"Teens and Tobacco in Minnesota: Results from the Minnesota Youth Tobacco Survey", December, 2000, Center for Health Statistics, Minnesota Department of Health, www.health.state.mn.us/divs/chs/data/youthtob.pdf.

"The Health Consequences of Involuntary Smoking: A Report of the Surgeon General", U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, Office on Smoking and Health, Rockville, Maryland, 1986.

Ringel, JS, Pacula, RL, Wasserman, J, "Legacy First Look Report 5, Youth Access to Cigarettes: Results from the 1999 National Youth Tobacco Survey", American Legacy Foundation, October, 2000. www.americanlegacy.org/americanlegacy/skins/alf/home.aspx

Walsh, M, Basta, J, Nodora, J, Solop, F, Hagen K, and McCarrier, K, "Arizona Adult Tobacco Survey 2002, Executive Report", Arizona Department of Health Services, Tobacco Education and Prevention Program, Evaluation Unit, University of Arizona and The Social Research Laboratory, Northern Arizona University, 2004.

"Wisconsin Youth Tobacco Survey 2000, Knowledge Beliefs, and Social Influences", Bureau of Chronic Disease Prevention and Health Promotion, Division of Public Health, Department of Health and Family Services, http://dhfs.wisconsin.gov/tobacco/pdffiles/PPH43027yts2000.pdf

"Youth Risk Behavior Surveillance – United States, 2003", CDC, MMWR, Volume 5, No SS-2, May 21, 2004.

Appendix

Arizona Youth Tobacco Survey, Prevalence Rates, 2003

Table A1. YTS 2003 Middle School Lifetime (Ever Use) Tobacco Prevalence Rates by Gender, Ethnicity, and Grade

Category	Any Tobacco	Cigarette	Cigar/illo	Smokeless	Bidis/Kreteks	Pipe
	%	%	%	%	%	not asked
Gender						
Male	45.7	34.8	23	11.5	10.3	
Female	37.6	30.5	16.8	7.2	6.5	
Race/Ethnicity						
African American	49.5	38.1	21.3	12	15.6	
American Indian	55.9	50.1	29.3	14.6	14.6	
Asian American	22.3	18.3	3.7	5.1	3.3	
Native Haw/Pac.Isl.	32.7	22.5	18.9	17.7	13.1	
Hispanic	46.8	38.7	25.2	7.4	8.4	
White	37.6	28	16.5	9.2	7.4	
Grade						
6th	32.2	21.4	12.1	8.1	6.3	
7th	43	35.2	21.2	9	8.7	
8th	50.4	41.5	26.7	11.1	10.1	
Total	**41.7**	**32.7**	**19.8**	**9.3**	**8.4**	

Table A2. YTS 2003 High School Lifetime (Ever Use) Tobacco Prevalence Rates by Gender, Ethnicity, and Grade

Category	Any Tobacco	Cigarette	Cigar/illo	Smokeless	Bidis/Kreteks	Pipe
	%	%	%	%	%	not asked
Gender						
Male	66.8	58.2	45.7	22.6	19.5	
Female	57.4	54	27.4	8.4	12.5	
Race/Ethnicity						
African American	67.6	57.3	32.4	20	14.4	
American Indian	90.2	86.7	54.8	23.4	20.2	
Asian American	53	46.4	26.8	13.9	19.2	
Hispanic	66.5	63.8	36.5	10.6	13.4	
Native Haw/Pac.Isl.	58.7	49.5	33.1	13.3	19.7	
White	58.7	51.7	35.9	16.6	16.8	
Grade						
9th	60.8	53.7	32.4	14.7	13.2	
10th	56	50.4	33.7	14.3	10.6	
11th	64.3	58.7	38.9	15.4	19.5	
12th	68.8	63.4	42.3	17.3	22.9	
Total	**62**	**56**	**36.2**	**15.3**	**15.9**	

Arizona Youth Tobacco Survey, Prevalence Rates, 2003

Table A3. YTS 2003 Middle School Current (30-day) Tobacco Prevalence Rates by Gender, Ethnicity, and Grade

Category	Any Tobacco %	Cigarette %	Cigar/illo %	Smokeless %	Bidis/Kreteks %	Pipe %
Gender						
Male	15.1	9	6.3	2.8	4.9	5.8
Female	13.8	8.8	5	1.4	3.5	3.9
Race/Ethnicity						
African American	19.5	12.7	2.7	4.8	12.2	4.6
American Indian	28.2	21.8	12.1	4.2	9.7	10.3
Asian American	8.4	6	1.1	2.9	0.9	3.1
Hispanic	17.7	8.6	9.6	2.3	5.2	6.6
Native Haw/Pac.Isl.	17.2	14.2	14.6	11.8	7.9	7.5
White	11	7.3	3	1.4	2.5	3.4
Grade						
6th	8.9	4.7	3.1	1.8	3.9	3.8
7th	15.1	9.2	5.7	2.2	3.7	5.6
8th	20	13.1	8.3	2.3	5.2	5.2
Total	**14.5**	**8.9**	**5.6**	**2.1**	**4.2**	**4.8**

Table A4. YTS 2003 High School Current (30-day) Tobacco Prevalence Rates by Gender, Ethnicity, and Grade

Category	Any Tobacco %	Cigarette %	Cigar/illo %	Smokeless %	Bidis/Kreteks %	Pipe %
Gender						
Male	30.1	20.4	17.6	7.3	8.1	7
Female	22	17.5	7.3	2	3.9	3.3
Race/Ethnicity						
African American	27.2	15.3	17.2	7.8	11.3	6.6
American Indian	52.2	40.7	27.9	12.6	8.4	15.6
Asian American	22.7	8.2	11.4	4.5	8.3	11.3
Hispanic	21.5	17.1	10.7	2.1	5.3	3.5
Native Haw/Pac.Isl.	14.7	9.2	8.8	1.5	12.8	1.7
White	26.9	19.5	12	5	5.5	4.9
Grade						
9th	27	19.6	11.2	5.2	7.9	6.1
10th	19.4	15.1	8.9	4.9	4.7	3.2
11th	27.1	20.4	13.9	4.5	5.7	4.3
12th	31	19.9	16.2	3.4	4.9	6.4
Total	**26**	**18.9**	**12.3**	**4.5**	**6**	**5.1**

Arizona Youth Tobacco Survey, Prevalence Rates, 2003

Table A5. YTS 2003 Middle School Frequent Tobacco Prevalence Rates by Gender, Ethnicity, and Grade

Category	Any Tobacco	Cigarette	Cigar/illo	Smokeless	Bidis/Kreteks	Pipe
	%	%	%	%	%	%
Gender						
Male	3.1	2	0.9	1	0.8	1.1
Female	1.4	1	0.1	0.1	0.3	0.4
Race/Ethnicity						
African American	7.6	5.8	0	2.4	1.4	0.9
American Indian	2.4	1.4	0.2	0.3	0.6	1.8
Asian American	0.6	0.3	0.6	0.3	0.3	0.3
Hispanic	2.5	1.6	1	0.6	0.8	1.1
Native Haw/Pac.Isl.	4	4.3	0	3.3	0	3.3
White	1.8	1.2	0.5	0.6	0.3	0.5
Grade						
6th	1.7	1.2	0.5	0.6	0.4	1
7th	1.8	1.1	0.2	0.4	0.5	0.7
8th	3.2	2.2	0.8	0.7	0.7	0.6
Total	**2.2**	**1.5**	**0.5**	**0.6**	**0.5**	**0.8**

Table A6. YTS 2003 High School Frequent Tobacco Prevalence Rates by Gender, Ethnicity, and Grade

Category	Any Tobacco	Cigarette	Cigar/illo	Smokeless	Bidis/Kreteks	Pipe
	%	%	%	%	%	%
Gender						
Male	10.3	8	1.4	1.2	1	1.7
Female	5.4	5	0.3	0.4	0.2	0.5
Race/Ethnicity						
African American	6.7	5.7	3.8	0.1	2.4	2.6
American Indian	10.4	6.9	3.1	3.4	1.6	3.2
Asian American	7	3.9	0.4	0.4	3.9	0.3
Hispanic	3.1	2.8	0.1	0.2	0	0.4
Native Haw/Pac.Isl.	5.9	0.5	4.8	0.2	0.6	0.2
White	9.8	8.3	0.7	1	0.5	1.1
Grade						
9th	6.8	5.5	1.2	0.6	1	1.3
10th	6.8	5.5	0.4	1.4	0.3	0.8
11th	8.6	7.3	0.8	0.8	0.5	0.9
12th	8.9	7.8	0.8	0.4	0.4	1.2
Total	**7.8**	**6.5**	**0.8**	**0.8**	**0.6**	**1.1**

Arizona Youth Tobacco Survey, School Sample, 2003

Table A7. 2003 YTS School Sample – Number of Schools by County

County	district middle	charter middle	district high school	charter high school	charter middle and high	Total
Apache	0	2	0	0	0	2
Cochise	1	1	2	3	0	7
Coconino	1	0	1	0	0	2
Greenlee	1	0	0	0	0	1
Maricopa	19	18	28	26	2	93
Mohave	2	0	1	1	0	4
Navajo	2	0	1	1	1	5
Pima	11	9	1	6	0	27
Pinal	1	0	1	1	0	3
Santa Cruz	1	0	0	0	0	1
Yavapai	1	2	1	2	1	7
	40	**32**	**36**	**40**	**4**	**152**

Table A8. 2003 YTS School Sample by Arizona Academic Achievement Profile or by School Type

	Excelling	Highly Performing	Perform-ing	Under-performing	Small School	New School	Alterna-tive School	Not Evaluated	Total
district middle	10	10	18	1	1	0	0	1	**41**
charter middle	1	0	2	0	17	5	0	6	**31**
district high school	7	12	14	0	0	0	0	2	**35**
charter high school	0	0	5	0	10	12	10	2	**39**
charter middle and high	1	0	3	1	1	0	0	0	**6**
Total	**19**	**22**	**42**	**2**	**29**	**17**	**10**	**11**	**152**

Arizona Youth Tobacco Survey, Student Sample, 2003, (Unweighted)

Table A9. Number of Students by Ethnicity

	Public Middle Schools	% of Total Sample	Public High Schools	% of Total Sample	Total	% of Total Sample
American Indian or Alaskan Native	331	5.1%	205	3.2%	536	8.3%
Asian	65	1.0%	72	1.1%	137	2.1%
Black or African American	187	2.9%	161	2.5%	348	5.4%
Hispanic or Latino	1190	18.4%	846	13.1%	2036	31.6%
Native Hawaiian or Pacific Islander	30	0.5%	31	0.5%	61	0.9%
White	1748	27.1%	1586	24.6%	3334	51.7%
Total	**3551**	**55.0%**	**2901**	**45.0%**	**6452**	**100%**

Table A10. Number of Students by Grade and Sex

	Female	% of total sample	Male	% of total sample	Total	% of total sample
6th	616	9.4%	614	9.4%	1230	18.8%
7th	669	10.2%	650	10.0%	1319	20.2%
8th	543	8.3%	510	7.8%	1053	16.1%
9th	392	6.0%	428	6.6%	820	12.6%
10th	429	6.6%	414	6.3%	843	12.9%
11th	387	5.9%	370	5.7%	757	11.6%
12th	270	4.1%	238	3.6%	508	7.8%
Total	**3306**	**50.6%**	**3224**	**49.4%**	**6530**	**100%**

Table A11. Number of Students in Charter and District Schools by Grade

	Charter	% of Total Sample	District	Percent of Total Sample	Total	% of Total Sample
Middle School						
6th	483	7.4%	749	11.5%	1232	18.8%
7th	502	7.7%	822	12.6%	1324	20.2%
8th	518	7.9%	537	8.2%	1055	16.1%
Middle School Subtotal	1503	23.0%	2108	32.2%	3611	55.2%
High School						
9th	318	4.9%	503	7.7%	821	12.6%
10th	473	7.2%	371	5.7%	844	12.9%
11th	324	5.0%	433	6.6%	757	11.6%
12th	233	3.6%	275	4.2%	508	7.8%
High School Subtotal	1348	20.6%	1582	24.2%	2930	44.8%
Total Sample	**2851**	**43.6%**	**3690**	**56.4%**	**6541**	**100%**

Table A12. Students in Sample by Age

Age	Charter	% of total sample	District	% of total sample	Total	% of total sample
12 years old or younger	605	9.1%	940	14.2%	1545	23.3%
13 years old	515	7.8%	755	11.4%	1270	19.2%
14 years old	422	6.4%	553	8.3%	975	14.7%
15 years old	396	6.0%	490	7.4%	886	13.4%
16 years old	399	6.0%	431	6.5%	830	12.5%
17 years old	324	4.9%	384	5.8%	708	10.7%
18 years old	147	2.2%	173	2.6%	320	4.8%
19 years old or older	81	1.2%	14	0.2%	95	1.4%
Total	**2889**	**43.6%**	**3740**	**56.4%**	**6629**	**100%**

Table A13. Students in Sample by Age and Grade

Age by Grade	6th	7th	8th	9th	10th	11th	12th	Total
12 years old or younger	1132	386	3	0	1	1	2	1525
13 years old	91	839	320	4	1	0	0	1255
14 years old	7	88	623	236	3	1	0	958
15 years old	1	10	101	503	252	3	0	870
16 years old	0	0	6	65	480	256	10	817
17 years old	0	0	1	7	82	439	174	703
18 years old	0	0	0	3	13	40	264	320
19 years old or older	0	0	1	2	12	16	58	89
Total	**1231**	**1323**	**1055**	**820**	**844**	**756**	**508**	**6537**

Table A14. Estimated Number of Students Who Are Current Smokers, 2003

Grade	Estimated Enrollments*	Estimated YTS 30-day Prevalence Rate	Estimated Number of Current Smokers
Grade Six	76662	0.046	3526
Grade Seven	76914	0.092	7076
Grade Eight	73104	0.13	9504
Total 6-8	**226680****		**20106**
Grade Nine	82654	0.196	16200
Grade Ten	73498	0.151	11098
Grade Eleven	67508	0.204	13772
Grade Twelve	62935	0.199	12524
Total 9-12	**286595****		**53594**
Total	**513275**		**73700**

* from Arizona Superintendent's Annual Financial Report 2003
**does not include the small number of students in ungraded classes